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THEIR MAJESTIES, KING GEORGE VI AND QUEEN ELIZABETH.
The Editor and Staff of "The Fruit World and Market Grower" join with citizens of Australia and every country within the British Empire, in wishing His Majesty, King George VI, and Her Majesty, Queen Elizabeth, a long, prosperous, and happy reign.

NEWS IN BRIEF.

An interesting experiment in the stowage of Apples without dunnage is being conducted on a commercial scale on the M.V. "Port Jackson" this season. The Apples were loaded at Hobart and Melbourne. Dr. A. J. Smith, of Cambridge, is in charge.

Spraying with tar distillate in Winter is recommended for controlling the Cherry aphid and other form of aphids.

The trapping of fruit flies in Winter is recommended: details of procedure are given in this issue.

SHOWS TO COME.

Brisbane Royal—August 16-21.

Adelaide Royal—September 11-18.

Melbourne Royal — September 23-October 2.

PERSONAL.

Sympathy is extended to Col. E. E. Herrod, Secretary Fruitgrowers' Federation of N.S.W., in the loss of his father, Mr. Edward Herrod, who passed away in mid-April, at the age of 83 years.

Rotarian H. V. C. Wilson, manager Harcourt Fruit Supply Ltd., delivered an interesting address on the fruit industry recently before the Castlemaine Rotary Club. The economic value of the industry to the whole community was stressed. The chairman of the meeting was Rotarian J. H. Lang (Harcourt).

Mr. H. G. Colombie is shortly leaving Australia for a visit abroad, and plans to be back in time for the next meeting of the Australian Apple and Pear Export Council. In the meantime his office at 422 Collins-street, Melbourne is being carried on as usual.

FAULTY CARRIAGE OF PEARS.

Batlow Co-op. Wins Legal Case.

The appeal by the Shipping Co. against the previous decision in the "Port Brisbane" case has been dismissed with costs.

The Batlow Co-op. sued a shipping company for claim resulting from faulty carriage of Pears in the "Port Brisbane" and won the case, which was heard at Cootamundra (N.S.W.) recently.

The shipping company lodged an appeal, and it is this appeal which has now been dismissed with costs.

This is the first time an action of this kind has been conducted in Australia.

EDITORIAL

Apples and Pears

Urgent Need for Publicity to Increase Local Consumption.

THE EXPORT shipping programme for Apples and Pears is now in full swing. The quality of the fruit is excellent, and it is pleasing to note that the season has opened favorably in U.K. as regards prices.

It would appear that the efforts of growers and shippers, expressed through the Australian Apple and Pear Export Council, for defining the quantity of Apples to be shipped to the United Kingdom, are being rewarded.

When the system of quotas was first introduced there was a good deal of heart burning, but by the exercise of patience and goodwill, the several States were allotted their proportion of the total. When it is realised that the objective is to stabilise the important U.K. market, and that a stated quantity from Australia must be defined, other aspects take their rightful place, and it becomes a matter of negotiation and examination of crop statistics to decide the quantities for each State.

That this system has worked voluntarily is indeed a credit to all associated with the movement.

There were peculiar difficulties this year, arising from the disastrous storm in W.A., which so heavily reduced the Apple crops, and from the short supplies in S. Aust.

But Tasmania and Victoria have very large crops of clean choice fruit and it would appear that N.S.W. also has a big crop of marketable fruit to offer.

This has already resulted in large surpluses of Apples appearing in the markets of Sydney, Melbourne and Brisbane.

The fact that Continental countries, owing to trade barriers, are now taking so little Australian fruit, has been a severe blow to Australian producers.

The solution of the problem does not lie in exporting more to the United Kingdom, but in increasing the Australian consumption of Apples and Pears.

The consumption of Apples in Australia is about half an Apple per head per day. It is not sufficient. The health of the population demands greater Apple consumption.

The Australian Apple and Pear Council has for a long time past foreseen the present difficulty, and has drawn up a programme for effective educational publicity.

A system of selfhelp was prepared—a small levy per case on the Apples and Pears sold in Australia that would have provided sufficient to increase the consumption and stabilise the local markets. But the Government so far has not provided the means for collecting this uniform levy.

Hence the approach to the Government for a grant—or at least, an advance against levies to be subsequently collected—for this vital publicity work.

A leading grower remarked the other day: "See the problem now, with substantial Apple crops simultaneously in Tasmania, Victoria and N.S.W.—**but this is not a glut year.** We urgently need this educational publicity **now**, and to carry on with the work as increased Apple crops are surely coming."

Scientific research is resultin larger and cleaner crops: non-pr able trees have been re-worke commercial varieties: the individ on the orchards are striving for m mum crops—but in the nati stocktaking of the Australian A industry, the big fact looms up more Apples are being produced can at the moment be profitably sumed.

There is also the correlative tor that the people are not ea enough Apples.

The third point is that educati publicity will stabilise an impor primary industry and in doing so prove the health of the nation.

The Federal Government, with the details before it, is now the ciding factor at this crisis, and hope is expressed that the very sonable request of the producers be acceded to.

FROST WARNINGS.

New Station for Red Cliffs.

A fully equipped "second ord climatological station will shortly operating at Red Cliffs to warn chards and vinegrowers of impend frosts, according to a report relea by the Assistant Commonwea Meteorologist recently.

The station will give temperatu readings and humidity for foreca ing frost conditions. It will be fitt with five special thermometers a other necessary equipment. Clima details will be telegraphed to M bourne, where experts will collate su information and broadcast fr warnings when necessary.

Upon warning being received, gro ers will be able to begin "smudgin to prevent damage by frost. Hea ing is not as general in Australia in U.S.A., where severe frosts a more plentiful and where frost i surance is comparatively high. It h been found that although heati costs are high, they are economic in that they save crop losses a hold the market at seasonal periods

Australian Apple an Pear Export.

FIGURES RELEASED by the De of Commerce, show an increa in the oversea shipments Australian Pears for the first thr months of 1937. The quantity Pears exported in that period wa 343,327 cases, compared with 276,6 cases for the same period of last yea

The export of Apples this year ha been nearly identical with that of la year. Altogether 1,735,624 case were shipped, and export greater b about 150 cases than that of last yea

Of the total exports of Apple 1,436,716 cases were consigned t Britain, 235,555 cases to Continenta countries, and 63,353 cases to othe destinations. Of the Pear exports 324,305 cases were sent to Britain 6,316 cases to European countries, an 12,706 cases to other destinations.

Shipments from each of the State were as follow:—

	Apples. Cases.	Pears Cases
New South Wales .	57,231	21,63
Victoria	334,869	179,65
Queensland	23,503	—
South Australia ..	134,840	45,34
Western Australia .	287,029	24,04
Tasmania	898,152	72,64
Totals	1,735,624	343,32

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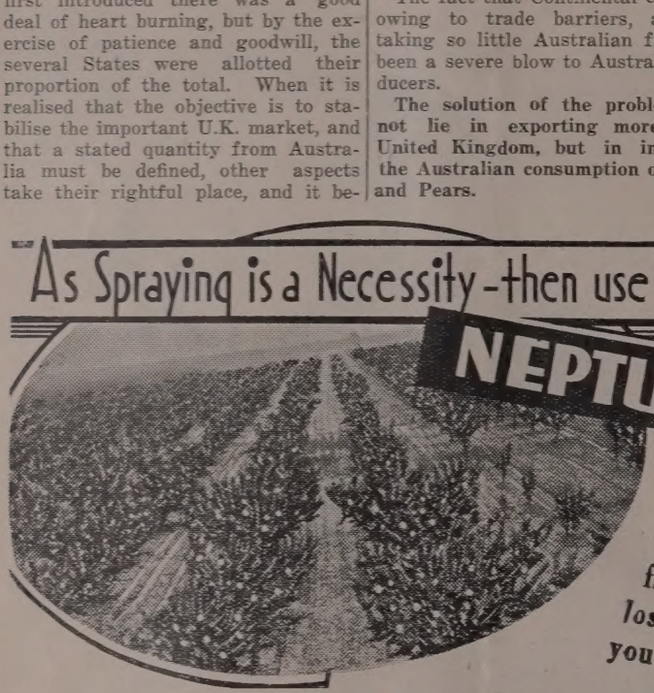

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Insect Pests and their Control

Aphis, Fruit Flies, White Louse of Citrus

WINTER CONTROL MEASURES

(By Entomological Officers of the N.S.W. Department of Agriculture.)

Aphids or Plant Lice (Aphididae).

APHIDS ARE SMALL, soft-bodied insects which may be found on the underside of leaves, around flower buds and on young shoots, twigs, branches and roots of plants. Most aphids are naked, but many, by means of special glands, secrete varying amounts of white powdery, or long woolly material which may cover their bodies. They may be of various colors depending upon the species.

Aphids feed by puncturing the tissues and extracting the juices from their host plants, and when abundant may cause the drying-up and curling of the leaves and buds, and weakening of the whole plant. In addition, some aphids cause scars and gall-like swellings on the limbs and twigs, state Entomological Officers in the N.S.W. Agric. Gazette.

Most species excrete quantities of "honey dew," which is sought by ants and flies. This "honey-dew" is also a medium on which a black smut or sooty mould fungus develops. They are also capable of disseminating various plant diseases.

Life History.

Winged and wingless aphids occur in the same colonies, and the life histories of the different species are very similar.

Some aphids, during Autumn and early Winter deposit over-wintering eggs which hatch into the Spring into wingless aphids, and these become the founders of the colonies which carry on the species throughout the year.

This first generation gives birth (parthenogenetically and viviparously) to young, which, in their turn, produce further progeny. Many generations, which may be either winged or wingless, develop in this manner throughout the year until the approach of Autumn, when males and egg-laying females again occur. Egg-laying is observed more commonly in the colder districts, the small black eggs being laid mainly about the bases of the dormant buds and scales of the host plants.

Many aphids feed on a wide range of host plants, but others prefer a single host or other closely-related plant species. When winged forms are developed, they may remain on their primary or first host plant or fly off to various secondary host plants, and there give rise to fresh colonies. From these plants, winged individuals of later generations may migrate back to the primary or original host plant during the Autumn. Egg-laying again takes place and the life cycle is repeated.

Aphids are likely to occur amongst vegetable crops, such as Beans, Cabbages, Carrots, Celery, Lettuce, etc., and in the flower garden plants such as roses, dahlia, stock, chrysanthemum, etc., are frequently infested.

In the orchard, Peaches, Cherries, Apples and citrus may become infested.

Sometimes aphids are kept in check by predators and parasites amongst which are ladybird bettles and their larvae, lace-wings, hover-fly larvae, and various species of parasitic wasps. In some seasons, also, colonies of aphids may be killed by a parasitic fungus.

Control.

Aphids may be controlled by the following methods:—

1. Dusting with nicotine dust, 2½ per cent., the dust being applied during the warmest part of the day with a suitable dust-gun.

2. Nicotine sulphate, 1 pint to 75 gallons of water (1 in 600), plus 3 lb. soap (1 fluid oz. or 2 tablespoonsful of nicotine sulphate and 2 oz. soap to 4 gallons of water).

3. Home-made tobacco extract which may be prepared with 12 lb. of waste tobacco, 30 gallons of cold water, 5 oz. of washing soda. Pour the water and soda solution over the tobacco and allow to stand for 36 hours, then strain the liquid through a double strainer before use.

4. Soap solution is another useful spray for aphids and may be made by dissolving 1 lb. common soap in 6 gallons of water. This spray should be applied while warm.

5. Miscible oil sprays may be used on Peach, Nectarine, Cherry and Apple trees during the dormant period. The oil is diluted 1 part in 25 parts of water. If lime sulphur is to be applied for leaf-curl on Peach or Nectarine trees, the oil should be applied first and the lime-sulphur about three or four weeks later.

6. During Winter, in the colder districts where eggs are produced by green Peach-aphids and black Cherry-aphids, a tar distillate spray, diluted 1 part in 35 parts of water, may be applied from about the middle to the end of June **when the trees are completely dormant,** to kill the over-winter-eggs laid around the bases of the buds. **On no account should tar distillate sprays be applied when the buds are commencing to burst.**

The substances mentioned above are contact insecticides, and for success in control of aphids, it is absolutely essential to spray or dust thoroughly.

FRUIT FLIES (Trypetidae).

ALTHOUGH MOST GROWERS have little or no Summer fruit left at this time of the year, they are urged to be as careful in their control measures against fruitdy at the end of the season, as at any other time. Fruit-flies reach their maximum numbers in late Summer and Autumn, but due to the scarcity of suitable fruits many of them are unable to lay their eggs and gradually die off in the early Winter months.

Some, however, survive and shelter throughout the cool weather, mainly in citrus trees where they cause a limited amount of infestation.

The flies from this source, together with those surviving from the Autumn are sufficient to initiate infestation in the early Summer fruits. Thus, a few flies in Spring are able to multiply and possibly become serious pests of later season fruits. Therefore, the fewer flies there are at the beginning of the Summer fruit season the less chance there is of their becoming a pest in the later varieties.

All infested fruit should be destroyed by burning, boiling for ten minutes, or by placing in an insect-proof pit. Trapping, or the use of the foliage poison spray should be continued in the latest varieties for about four weeks after the last fruit has been harvested. Any signs of infestation in citrus should be looked for and infested fruit promptly destroyed.

Winter Trapping Reduces Spring Infestation.

Trapping in citrus trees during the Winter months is recommended, so that the fly population is reduced to a minimum by the time the early Summer fruits are susceptible to attack.

The traps should be baited with 6 fluid ozs. of a lure made up of ½ fluid oz. (one teaspoonful) essence of vanilla, ½ fluid oz. (one tablespoonful) household ammonia, and 26 fluid oz. (three breakfast cupsful) of water, and suspended in the trees bearing the ripest fruit. It is better to place the traps in Orange, Mandarin, and Grapefruit trees than in Lemon trees, and on the sunny side of the trees, but sheltered by the foliage. The trap need only be emptied and refilled with the lure about every fourteen days in the cool weather. As many traps as can be conveniently handled should be put out with a minimum of one trap to fifteen trees.

WHITE LOUSE SCALE OF CITRUS (Prontaspis citri).

AS A RESULT of the dry season recently experienced in the coastal area, the white louse scale has developed extensively in many orchards and attention should be given to its control at the present time if this has not already been done.

This pest is generally well-known to citrus growers, and it is readily recognised by the white appearance of the trunk and main limbs due to the numbers of male scales which are present in infestations of this insect. These male scales have a pure white, ribbed covering, and are very conspicuous, but the female scale covering is dull brown, greyish, or almost black and is not easily noticed.

Where the infestation is heavy, especially under dry conditions, considerable injury to the trees may result. The bark becomes "hide bound" and cracks, and in some cases gumming sets in. This may then be followed by borer attack, in which case the limb may be killed outright. Even as a direct result of white louse activity, however, large limbs in the centres of the trees may be killed, especially if previously weakened by purple scale (Lepidosaphes beckii) infestation. In extreme cases, the leaves and fruit may be severely infested, with resultant leaf-drop and fruit disfigurement.

Life History.

Development of this scale is continuous, but much more active during the warmer months. The life cycle may be completed within two and a half or three months for females in Summer, and five to six weeks for males. Most of the females pass the Winter in the adult condition and commence to produce eggs in Spring. Larvae are produced at the rate of two or three per day over a period of up to 150 days, the average number of young produced being from seventy-five to one hundred per female. Larval activity is usually greatest during October and November, and again in February and March.

Control.

Though control may be obtained at almost any time of the year, the most suitable period is during the early Winter. Lime-sulphur should be applied to the centres of the trees using the lime-sulphur at a dilution of 1 in 7 if home-made. Good results have been obtained with commercial lime-sulphur at a dilution of 1 in 15. It is a decided advantage to use a spreader, such as casein-lime at the rate of 1 lb. to 80 gallons of spray.

Where purple scale is also present it has been found an advantage to spray the whole tree with lime-sulphur at 1 in 15. This should be done only in the cold weather after the trees have hardened, when little risk of injury exists. Fruit, especially Navels, from such trees will, of course, require treatment to remove the lime-sulphur residue.

SPRAYING YELLOW MONOLEPTA BEETLE.

Measures for Control.

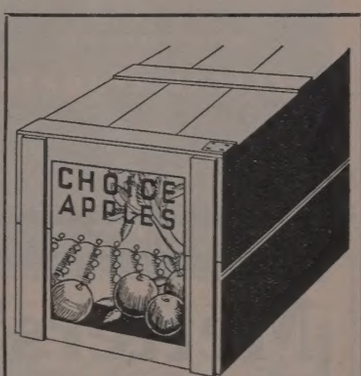
The yellow monolepta beetle (Monolepta australis), is a native species, confined at present to the north coast districts of N.S.W., where it attacks blossoms and foliage of citrus, stone and pome fruits, and Maize, states the N.S.W. Department of Agriculture. It also feeds on Wattle trees, and the introduced pepper tree (Schinus molle) is a favorite food during both Winter and Summer.

The beetle measures about ¼ inch in length, and is of a general yellow color, the base of the wing-covers and a small spot on each being bright cerise.

The best method of control is dusting the infested plants with arsenate of lead powder mixed with hydrated lime, the proportions being 1 lb. arsenate of lead powder to 20 lb. hydrated lime. The arsenate of lead could also be used as a spray, at the rate of 1 lb. arsenate of lead powder to 40 gallons water.

On plants or crops where the application of an arsenical would not be advisable, control may be obtained by the use of pyrethrum dust mixed with a "filler" or "carrier" such as kaolin, talc or flour, the proportions being pyrethrum dust 1 part, "filler" 4 parts.

Flares, carried up and down between the rows of fruit trees, etc., where the beetles have settled at night, have been used to control these beetles, as they fly towards the light. The flares may be made by wrapping a sack or bag around the end of a pole and dipping it into kerosene.



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THE CHERRY APHI

(Myzus cerasi Fab.)

Further Investigations and Experiments

Tar Distillate Recommended for Spraying in the Dormant Season.

(E. H. Zeck, Assistant Entomologist, N.S.W. Dept. of Agriculture.)

INVESTIGATIONS throughout the Orange district, continued during the past season (1936), again showed that some of the wingless viviparous or young-bearing females of the Cherry aphid were capable of withstanding the frosts and snows experienced in that district, and that they continued to produce young throughout that period. Occasional young-bearing winged aphids were also found during the Winter.

These living aphids were not as abundant as during the Winter of 1935, in which season egg production was scanty. Last season (1936) the egg production was very extensive and widespread throughout the Cherry orchards. Nothwithstanding the abundance of eggs laid upon the trees, the aphid infestation was much less severe than in 1935.

Control Experiments.

The abundance of eggs upon the Cherry trees enabled experiments to be carried out during the dormant period, in addition to further tests with later sprays.

Times of Spray Applications.

The dormant period sprays were applied on July 7, the "pinking" stage sprays on September 28; the "shuckfall" on October 27; the final sprays on November 9. The pump pressure was approximately 300 lb. per square inch, and each tree received an average of five gallons of spray mixture.

The sprays tested during the dormant period were tar distillate and red oil.

The nicotine sulphate used in the "pinking" stage and later sprays was combined with lime-sulphur (this being used as a fungicide), and lead arsenate was added to the combined sprays at the "shuckfall" application to control Cherry slug (Caliroa limacina), the adult of which were commencing to appear at that time. The spreader used was calcium caseinate.

SPRAY MIXTURES USED.

Row 1.—Ten Trees.

1st spray, dormant period. — Ta distillate, 1 in 35.

2nd spray, "Shuckfall" or sepal fal —Lead arsenate powder (½ lb.), plu calcium caseinate spreader (½ lb.) i 40 gal.

Row 2.—Ten Trees.

1st spray, dormant period.—Tar dis tillate, 1 in 35.

2nd spray, "Pinking" stage.—Nico tine sulphate, 1 in 600 (1 pint to 7 gal.), plus lime-sulphur 1 gal. in 4 gal, and calcium caseinate spreade ½ lb. in 40 gal.

3rd spray, "Shuckfall."—Lime-sul phur, ¾ gal. in 40 gal., plus lea arsenate powder (½ lb.) and calcium caseinate spreader (½ lb.).

4th spray.—Lime sulphur, ½ gal. in 40 gal.

Row 3.—Ten Trees.

1st spray, dormant period.—Red oil, 1 in 20.

2nd spray, "Shuckfall."—Lead arsenate powder (½ lb.), plus calcium caseinate spreader (½lb.) in 40 gal.

Row 4.—Ten Trees.

1st spray, dormant period. — Red oil, 1 in 20.

2nd spray, "Pinking." — Nicotine sulphate, 1 in 600 (1 pint to 75 gal.), plus lime-sulphur 1 gal. in 40 gal. and calcium caseinate spreader, ½ lb. in 40 gal.

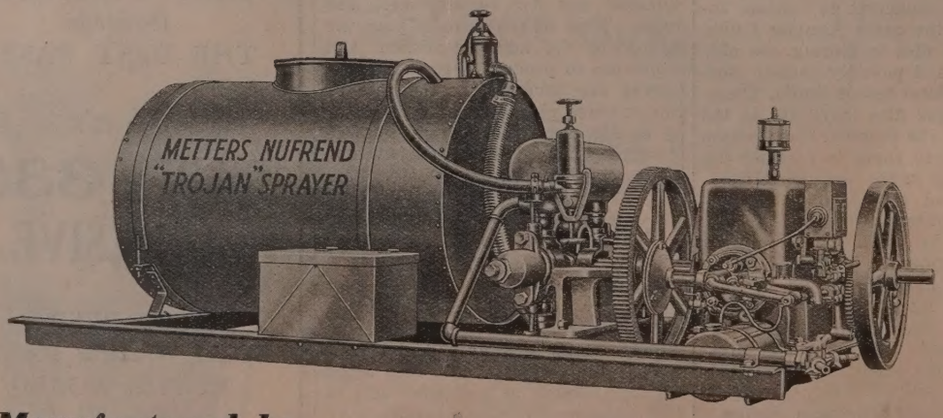
3rd spray, "Shuckfall."—Lime-sulphur, ¾ gal. in 40 gal., plus lead arsenate powder (½ lb.) and calcium caseinate spreader (½ lb.).

4th spray.—Lime-sulphur, ½ gal. in 40 gal.

Row 5.—Ten Trees.

1st spray, dormant period. — Red oil, 1 in 20.

Metters' Nufrend "Trojan" Power ... Sprayer



Specifications:—2-h.p. petrol engine, speed 500 r.p.m., direct coupled to Nufrend Spray Pump. Galvanised Vat of 50 gallons (approximate capacity), fitted with rotary agitator, mounted on a welded steel frame. The plant is equipped with a Metters Automatic relief valve, suction pot with removable strainer, double cock, 2-25-ft. lengths of ½-in. special spray hose, directors and nozzles. The pressure may be regulated and set as required up to 250 lb.

Capacity:—Pump is capable of delivering 240 gallons of mixture per hour at a pressure of 200 lbs.

Weight:—6 cwt.

Manufactured by ...

PRICE £75

METTERS LIMITED, 124 Rundle Street, Adelaide

d spray, "Pinking."—Nicotine sul-
e, 1 in 600 (1 pint to 75 gal.),
lime-sulphur 1 gal. in 40 gal. and
um caseinate spreader, ½ lb. in 40

d spray, "Shuckfall."—Lime-sul-
, 3 gal. in 40 gal., plus lead ar-
te powder (½ lb.) and calcium
inate spreader (½ lb.).
h spray.—Lime-sulphur, ½ gal. in
gal.

Row 6.—Ten Trees.

he ten control or check trees were
treated.

Row 7.—Ten Trees.

st spray, "Pinking" stage.—Nico-
sulphate, 1 in 600 (1 pint to 75
), plus lime-sulphur 1 gal, in 40
, and calcium caseinate spreader
. in 40 gal.
nd spray, "Shuckfall." — Lime-
hur, 3 gal. in 40 gal., plus lead ar-
ate powder (½ lb.) and calcium
einate spreader (½ lb.).
rd spray.—Lime-sulphur, ½ gal. in
gal.

Row 8.—Ten Trees.

st spray, "Pinking" stage. — Nico-
e sulphate, 1 in 600 (1 pint to 75
l.), plus lime-sulphur 1 gal. in 40
l. and calcium caseinate spreader
lb. in 40 gal.
2nd spray, "Shuckfall."—Nicotine
lphate, 1 in 600 (1 pint to 75 gal.),
us lime-sulphur ¾ gal. in 40 gal. and
d arsenate powder (½ lb.), and cal-
m caseinate spreader, ½ lb. in 40
l.
3rd spray.—Lime-sulphur, ½ gal. in
gal.

Results.

On November 30 counts of the
hid-infested leaf clusters were
ade.

**Where tar distillate had been em-
oyed as an ovicide or egg-killing
ray during the dormant period, no
hid-infested clusters were to be
und on any of the trees.**

Red oil, used as a dormant stage
ray was not effective, fifty-three
hid-infested leaf clusters being
und on the row so treated. Where
ie red oil was followed by nicotine
lphate in either the "pinking" or
ie "pinking" and "shuckfall" stages
ie numbers were reduced to three in
ch row.

Where nicotine sulphate was used
r the "pinking," or "pinking" and
huckfall" sprays, the counts were
educed to seven clusters and six
usters respectively.

The ten untreated control or check
rees showed eighty-three aphid-in-
ested leaf clusters.

Details of the above counts are also
iven in the accompanying diagram.

The results given above indicate
hat tar distillate, used during the dormant period, was the most efficient spray. Red oil alone used as a dormant spray was not effective. Regarding the later spray applications in which nicotine sulphate was employed, it is thought that had the season been one favorable to heavy aphid infestation, a third application, about two weeks after the "shuckfall" spray, may have been necessary for their control.

Acknowledgments.

Thanks are especially due to Mr. J. W. Plowman, on whose orchard the experiments were undertaken, and to both him and his brother for their co-operation during the experiments. — "N.S.W. Agric. Gazette."

Importance of Aphelinus Mali

South African Appreciation of the Work of the Late Dr. R. J. Tillyard

The Editor acknowledges a letter from Mrs. R. J. Tillyard (widow of the late Dr. R. J. Tillyard) enclosing a most interesting letter from Lt.-Col. E. I. D. Gordon, Drumearn, Elgin, Cape Province, South Africa, giving an account of the good work done by a colony of Aphelinus mali sent him in 1923 by Dr. Tillyard. Extracts from Col. Gordon's letter are as follows:—

"I can never be sufficiently grateful to your husband for sending me the Aphelinus mali.

"By chance I happened to see a paragraph about it either in a South African paper or in the 'Fruit World of Australasia,' to which I have been subscribing for years, and which I find most useful, and I at once wrote to him to know whether it was possible to get a small colony. He most kindly sent off a colony, which arrived at Cape Town in August or September, 1923. Sir Thos. Smartt was then Minister of Agriculture in General Smuts's Cabinet, and he gave orders that the Senior Entomologist at Cape Town, Dr. Melly, should do his utmost to hatch them. Dr. Melly was not too optimistic, as the parasitized twigs sent showed no sign of life, but he persevered and after—as far as I remember—about ten days, some hatched, and this went on day after day, Dr. Melly going into the office early each day in order to catch our train leaving Cape Town at 8.45 a.m. We are only 52 miles from Cape Town, and the train gets here at 11 a.m., and each day I released the arrivals on to the same tree until at last, according to Dr. Melly, about 1,000 Aphelini had been released on that tree. The experiment was a most complete success, and the little wasps completely control the woolly aphis on my trees. During the spraying season the aphis makes progress, but once the spraying ends the wasps get to work and by about July it is almost impossible to find any aphis to show to visitors.

From my farm the Aphelini have spread to practically all the Apple-growing districts of the Cape Province, and it is established on many farms and doing excellent work.

In the Transvaal it never seems to get established, possibly because there —and indeed in all parts of the Union except the south-west part of the Cape Province—the rainy season is in Summer; at least, I can think of no other explanation.

The position is that now I and many of my friends who grow Apples really never think about woolly aphis now because it is so well controlled. I certainly do not want to see it entirely disappear, for then presumably the Aphelini would die out also, and if, as would be likely, the woolly aphis appeared again, it would be necessary to get the Aphelini established again."

:: :: ::

This recalls the early history of Aphelinus mali. When Dr. Tillyard went to Nelson, New Zealand, in 1919, woolly aphis hung on the Apple trees in the orchards like long white beards. He visited America and returned with the tiny parasitic wasp, Aphelinus mali, obtaining it from three States with widely differing climates. Dr. Tillyard and the late Mr. Alfred Philpott succeeded in crossing the different breeds, but the hybrids numbered only six specimens. These were tended with the greatest care and eventually bred in such numbers that many thousands were sent round to New Zealand orchards. In four years woolly aphis had practically disappeared. Tubes of the living parasites or parasitized twigs were also posted to Australian fruit centres and to South Africa, where in most cases they established themselves and did excellent work.

NEW ARSENIC SUBSTITUTE.

Non-Injurious to Human Beings.

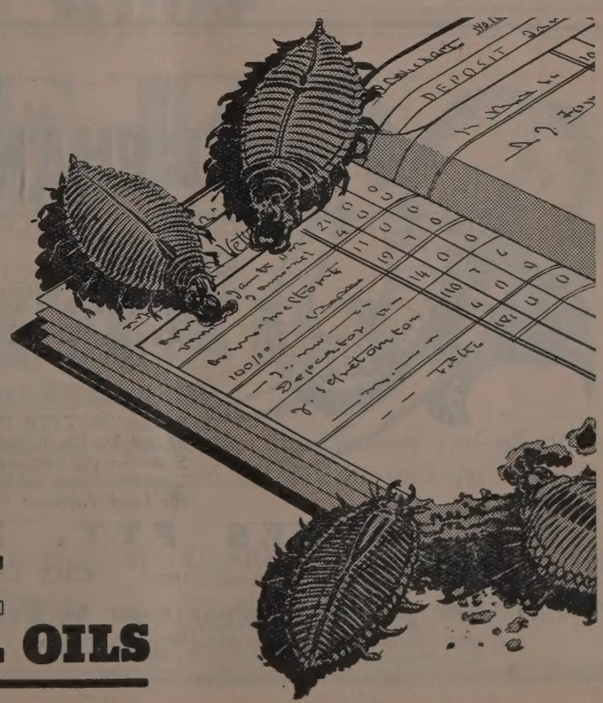
Supplies From Brazil.

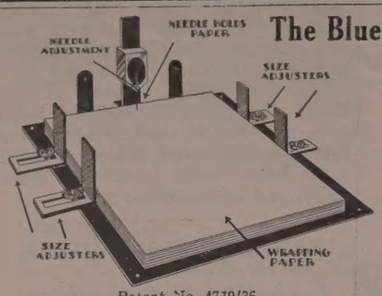
A poison which can be used instead of arsenic in insecticides and is not injurious to human beings has been discovered in Brazil. It is called "Timbo" and is a new export commodity of the Amazon Valley.

The word "timbo" is derived from an Indian word which the natives of the Amazon Valley use to denote any plant, shrubs or tree from which they extract poison, which they employ in catching fish in the rivers. Recent experiments have shown that "rotenona," the basis of the poison, can replace arsenic as an ingredient in insecticides and eliminate the danger in their use, as it is not injurious to man or warm-blooded animals.

"Timbo" can be exported either as a root or a powder, but to encourage local industry, export in powder form only has hitherto been allowed from the State of Para. The largest importer is the United States, which took 227 tons of the total exports, amounting to 253 tons in 1935.

The Name of
"Buzacott"
ON YOUR
SPRAY MATERIALS
is a guarantee of
HIGHEST QUALITY
Sole Victorian Distributors:
BUZACOTT SPRAYS PTY. LTD.
249 FRANKLIN STREET
MELBOURNE, C.1.

ARE THEY FEEDING ON
YOUR MONEY?
When insects chew the leaves or suck the sap of your trees, it is just as if they'd chewed the very bank notes in your pocket! A scientific spray program is absolutely essential—Winter and Summer—to protect your trees and your profits. Gargoyle RED, the famous DORMANT oil spray, Gargoyle PALE (for use with Bordeaux), and Gargoyle WHITE, "the Summer oil" (for use with Nicotine, Lead Arsenate), or alone will enable you to exercise complete control over ALL pests, fungus and insect, on all your trees, in every season.

SPRAYING GARGOYLE OILS



Patent No. 4779/36

Southern Victoria Pear Packing Co. Ltd.
Blackburn - - Victoria

Enquiries invited from Victorian and Interstate Packing Houses regarding District Agencies.

Has been tested and proved under working conditions

The Bluemoon "Fastpak" Paper Holder
— Fruit Wrapping —

REMARKABLE for the speed and smoothness with which the paper may be drawn from the container.
NO WASTE—the needle-point control ensures that there is no waste or unsightly torn corners.
ADJUSTABLE to take various sizes of paper.
DURABLE—it will give years of efficient service without any cost for replacements.
FAST to work with and definitely improves packers' tallies — at the same time prevents the paper from shifting or buckling in the container.

TUNG OIL

TUNG OIL MILLS LIMITED has been established to provide Milling and Marketing facilities for Tung Oil Nut crops produced in Australia and New Zealand, and we expect to commence crushing in September next.

The Company is now in a position to contract for a period of 10 years at least for the purchase of all Tung Nut crops on the basis of an advance or a fixed price per lb. of Oil as determined on analysis of Nuts when received, together with an equal division between the grower and the Company of any profits realised above the advance on sale of the Oil. The Company has also established Nurseries and will supply on very easy terms Nursery trees from guaranteed heavy fruiting Stock, and with each order will supply a quantity of seed nuts free of charge and in every case will enter into a Contract for the purchase of crops. There is an assured market for Tung Oil and everyone with suitable land in the correct climatic areas should carefully consider the question of growing Tung Trees. We give free advice on choice of Land and management of plantations.

We are now able to produce concrete evidence of the successful establishment of the Tung Tree over a widespread area in this country. Despite prejudice and Departmental criticism there is no doubt that the Tung Tree has come to stay, and if planted in suitable localities and given reasonable attention will thrive under a variety of conditions and will earn good profits for planters.

SEND TO US FOR FULL PARTICULARS.

TUNG OIL MILLS LTD.
66 King Street - - Sydney

Western Australia

News and Notes

Donnybrook Show.

THE AUTUMN SHOW of the Donnybrook A. and H. Society was held on April 7. The official opening was performed by the Honorary Minister (Mr. E. H. Gray). Owing to the dry season, exhibits were not so numerous as usual, but the quality was very high. In the opening speech, Mr. Gray said that no part of Australia could grow better fruit, and the vegetables could compete with those grown in any part of the world. Speeches were given by other well-known people, among whom were Mr. Jas. Egan, Miss May Holman, M.L.A., Mr. W. J. Mann, M.L.C., and Mr. J. H. Prowse, M.H.R.

The sections for which prizes were given were: Pasture Grasses, Farm Products, Vegetables, Fruit, Flowers, Domestic, Fancy Work and Photography and Art.

The Fruit Section (not for export) was judged by Mr. F. O. Nelson, of Balingup. He commented on the packing and grading of the fruit, and was pleased to see that pit and watery core were absent from the fruit.

Apples: Prizes were given for Jonathans, Cleos., Dunns, Delicious, Rome Beauty, Granny Smith, Nickajack, Doherty, Yates, Rokewood, cooking and best collection. Prize-winners included E. Trevena, W. A. Bendall, P. Proctor, E. E. Miller, J. Cross, F. Kitney, P. J. Murphy.

The Western Ice Co. prize for the best dump case of Apples was won by Parke Bros., with N. A. G. Brockman second. Other special prizes were given for export Apples (donated by Westeralian Farmers Ltd.). Simons' Cup, two cases of export Apples (donated by Messrs. Paterson & Co.), best packed case of Granny Smiths; Packing prize, case of Dunns (donated by Messrs. Brunning). Winners were J. Jarvis, H. Young, Parke Bros., and Miss Joy Cross.

Pears: Prizes were given for best export collection, Winter Cole, Comice, Kieffer's Hybrid, Winter Nelis, Beurre Bosc, Packham's Triumph, Josephine, and cooking. Other fruits included Peaches, Lemons, Figs, Passionfruit, Quinces, Plums, Tomatoes, Grapes, Rock Melons, and Persimmons.

Prize winners included W. A. Bendall, A. C. Frost, E. E. Miller, P. Proctor, E. Trevena, R. T. D. Brockman, B. Langridge, and Mrs. V. C. Mitchell.

For export fruit the prize winners were H. Young, J. Cross—best packed case of Granny Smiths; H. Young, K. Adams—dump case Dunns; Parke Bros., K. Adams—two cases export varieties; Parke Bros., H. Young — best packed case of Granny Smiths; best packed case of fruit to exhibitors not having won a packing prize — Miss Joy Cross and Mrs. N. A. G. Brockman.

The effect of the Bridgetown storm is now fully apparent in the reduction of the State's Apple crop, and the quantity available for export. Instead of exporting some 540,000 cases to U.K., the total is likely to be reduced by 80,000 cases, with concurrent reduction of the quantity intended for the Continent.

However, the quality of the fruit going forward is of high standard, as revealed by the prices on the U.K. markets. Jonathans realising 13/- and 14/- per case.

:: :: ::

On the whole, Western Australia is maintaining her freedom from codlin moth and black spot. Sporadic outbreaks of codlin are reported from time to time, but the most vigorous efforts are made—and with success—to eradicate the pest.

Black spot, or Apple scab, has appeared in some districts and some concern has been expressed by growers. However, there is a vital contact between the Dept. of Agriculture and the growers, and as control measures are fully understood, it is safe to say that the problem will be confined to very narrow limits, with every hope of complete eradication.

"FRUIT WORLD" APPRECIATED IN QUEENSLAND.

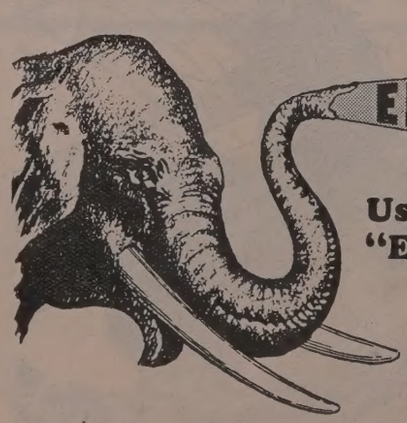
(The Editor, "Fruit World and Market Grower.")

Dear Sir,—

Your paper has been of considerable value to me over the past years and I would not care to be without it; the articles on pruning, spraying, cold storage are of tremendous value to my neighbors and myself and frequent discussions arise from your articles.

E. S. PIKE.

Riwaka Orchard, Pozieres,
Queensland, 18/2/37.



ELEPHANT BRAND SPRAY

Use "ELEPHANT" Brand Arsenate of Lead—Quality Stands Alone.

Insist Upon it!

FRUIT GROWERS generally have come to depend on "Elephant" Brand Sprays. They find them absolutely reliable, efficient and of guaranteed quality.

We can supply all your Spray Requirements—ARSENATE OF LEAD (Paste or Powder), SPRAY SPREADER, SPECIAL COPPER MIXTURE, LIME SULPHUR, WHITE OIL, NICOTINE SULPHATE, RED OIL, Etc.

Extract "BETTER FRUIT," U.S.A., February, 1934: "Idaho Spray Programme for Codlin Moth Control, 1934," by Dr. Claude Wakeland, Department of Entomology, University of Idaho. Experiments in the State for the past six years have shown that LEAD ARSENATE is the best, as well as the most economical insecticide that we have tested for Codlin Moth control. Entomologists are agreed that there is no substitute for Lead Arsenate that can be recommended to the public.

JAQUES PTY. LTD., Are Actual Manufacturers and Distributors of "ELEPHANT" Brand Sprays.

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INTERSTATE AGENTS:

N.S.W.—Producers' Distributing Society Ltd., Valentine and Quay Streets, Sydney.
Q'ld.—Buzacott's Ltd., Adelaide Street, Brisbane.
S.A.—Silbert, Sharp & Bishop Ltd., Rundle St. E., Adelaide.
W.A.—Westralian Farmers' Ltd., 569 Wellington St., Perth.
Tas.—R. Nettlefold Pty., Hobart. Bell & Gerrard, Launceston. Cocker, Bell Pty., Devonport.
N.Z.—Pizzey, McInnes Ltd., Box 1114, G.P.O., Auckland.

DRIED FRUITS
News and Notes

Dipping Solutions for Sultanas

EMULSIFICATION OF OLIVE OIL.

OLIVE oil is invariably used in the dipping solutions into which Sultanas are immersed prior to drying, but until recently vine growers made their own emulsions by stirring the olive oil into a weak solution of carbonate of potash, declares the "N.S.W. Agricultural Notes."

Stable prepared emulsions, in which the oil globules are very much smaller, are now on the market, and during the 1936 season the merits of such prepared stable emulsions, in comparison with "home-made" emulsions, were investigated by Mr. E. C. Orton, of the Commonwealth Research Station, Merbein. The results of Mr. Orton's work have recently been presented in an interim report.

The full range of the investigations covers all phases of dipping, including variations in the quantities of all substances used in the dips, the objective being to obtain evidence regarding the exact functions of olive oil, potash, and caustic soda, in both cold and mixed dips. No alterations in the method of preparing these dips are suggested until further progress has been made in the work, but as the prepared emulsions are now replacing "home-made" emulsions the following notes on the results obtained are of interest.

A disadvantage of home-made emulsions arises at times from "free oil," particularly in the cold dip when first used. Also, the oil is removed from the dip relatively faster than the other ingredients, and needs additions from time to time. These are difficulties completely overcome when the oil is used as a stable emulsion. In large scale trials no additions were found necessary. Identical results were obtained from cheap and expensive brands of olive oil when used as a stable prepared emulsion, whereas for home-made emulsions a good quality oil, easily emulsified, is essential.

It has been previously established that, within limits, the drying rate becomes faster as the quantity of oil in the cold dip is increased. A similar result was obtained with prepared emulsions. No alteration in the amount of olive oil at present recommended is suggested. Any decrease in the quantity of oil applied to the fruit in a cold dip is definitely dangerous, in that the drying rate may be reduced to the point when handling costs become excessive, particularly if wet weather intervenes.

The present finding in reference to quality is that the fine stable emulsions give, in the cold dip, slightly better results. The difference in mixed dips is not nearly so noticeable.

The following recommendations are made:—

1. When prepared stable emulsions are used in the dips for Sultanas, the quantity of actual oil should be similar to the quantity at present recommended in standard formula for cold and mixed dips.

2. The quantity of oil in the emulsion must be known to the user, in order that correct quantities can be incorporated in the dips.

LEVY UP SIXPENCE.

Board Decides Upon 5/6 Ton.

Owing to the estimate of the 1937 crop being lower than that of last year, the Victorian Dried Fruits Board announces that a levy of 5/6 per ton shall be paid by all packing sheds during the present year upon all fruit sold and despatched. Last year the levy was 5/- per ton, but decreased supplies and increased publicity expenditure have made an increase necessary.

Mr. F. J. Greatorex giving an address on Budding to Young Farmers at the recent Pakenham Upper (Vic.) Field Day.

70,000 Tons Dried Fruits

Now an Important Industry.

WHEN, around about 1890, Mildura launched the dried fruits industry for Australia, even the most optimistic prophet could scarcely have visioned the development that would follow such a modest beginning. By 1907 the production of dried fruits had grown to the then satisfactory total of 7,200 tons, but after the Great War and the settlement of soldier growers in the industry it began to make real progress.

In 1924, the Australian production was 37,593 tons, but in 1933 a record production was created with 77,593 tons. California contributes most to the world's requirements of dried fruits with 200,000 tons per year Other large producing countries include Smyrna, Greece, and Spain, besides Australia.

In Australia, Victoria, N.S.W., S.A. and W.A., are the producing States. Victoria stands easily first, and its greatest production centre is Mildura, with the adjoining areas of Merbein and Redcliffs districts. In 1936 these areas produced 3,466 tons Currants, 26,123 tons Sultanas, and 4,137 tons Lexias, a total of 33,726 tons, or nearly half of the Australian production which is valued at approximately £3,000,000 a year to the country.

The cash value of the industry, however, is not its only recommendation for it gives employment to over 6,000 people directly employed in growing, 2,000 more indirectly employed in related industries, many thousands of seasonal employees during harvesting periods and a great number of people employed partly or wholly in distribution and marketing.

Therefore it can be believed that the dried fruits industry in Australia is an important factor in the economic life of the country, and is contributing its full share to the welfare of the Commonwealth.

DRIED FRUITS POSITION ABROAD.

Market Report from London.

The latest report from London, covering March conditions, states that the quantity of Greek Currants in stock was only 400 tons as against 1,300 tons at the same period last year, also that shops were short of Australian Currants. Consumption per month has increased by 2,500 tons in February as compared with that month in 1936.

Sultanas were in light supply, and prices quoted were Smyrna 40/- to 41/-, with Australian 46/- to 48/-. Sales of fine fruit from Crete and Greece was hanging fire at from 46/- to 65/-. Advance orders for Australian fruit were being booked in relation to the estimated quantities of Sultanas 20,000 tons, Currants 11,000 tons, and Lexias 2,000 tons. G.A.Q. unbleached South African Capes were being quoted at 41/- to 42/- C.I.F.

I Wonder?

"The time will come," thundered the lecturer on women's rights, "when women will get men's wages."

"Yes," said a weak little man in the back seat, "next Friday night."

Weed, Scrub and Tree Killer

ARZEEN

POWDER AND LIQUID

A Highly concentrated preparation of

SOLUBLE ARSENIC

READY FOR IMMEDIATE USE

The most effective and economical of all weedkillers. Definitely eradicates blackberries and all other noxious vegetation. Completely kills useless timber and prevents growth of suckers.

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Cold Storage In Australasia

Doncaster Cool Store Fire

Plant Operating Again 36 Hours After the Fire

THE disastrous fire which occurred at the Orchardists' Cool Store, Doncaster (Vic.), on March 26, and resulted in damages estimated at £40,000 which was a calamity to all concerned—but the efforts put forward after the fire to keep the plant moving provides an interesting story.

The following details are given by an observer who was on the spot whilst these efforts were being put forward.

Apparently the fire broke out somewhere between half past 5 and 6 a.m., in the gas producer house, and with the aid of a pretty stiff wind that was blowing at the time, it spread rapidly over the entire building. It appears to have travelled length-ways over the building to the far end, as it was stated by observers that the grass was burning at the far end of the building about 15 minutes after the fire broke out. While bone-dry timber and mill shavings is an excellent thing for insulation purposes, it burns like the proverbial matchwood once a good hold has been taken by the fire.

It would appear that once having gained a hold in the space between the roof and the top of the building, the fire swept rapidly along a bed of dry mill shavings, which it is customary to place over the finished woodwork as additional insulation against the heat of the sun on the iron roof. This bed of shavings apparently acted as a spreader for the fire, and it was no time until the building was alight from end to end.

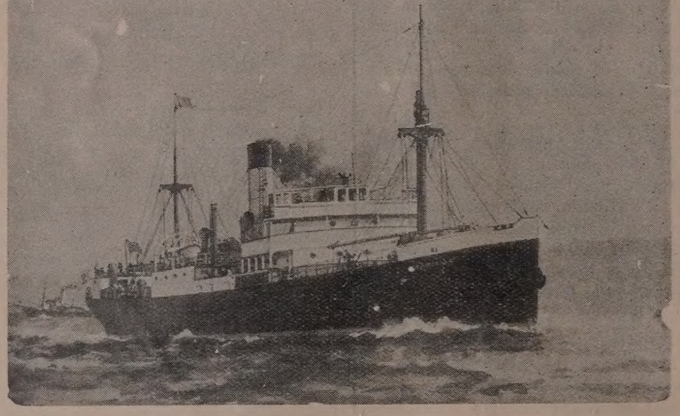
Added to the usual risk of fire with falling walls and roof structures, was that of the charge of ammonia in the refrigerating plant, and spare cylinders of ammonia housed in the engine room, and it is estimated that well over a ton of ammonia went up with the smoke. One cylinder burst by excess pressure and was flung across the road like a shot out of a gun colliding with a pine tree opposite Mr. W. A. Webb's house, and the scar on the tree will be there for many a long day. The cylinder burst at one end, and in the middle was flattened to an extent that would have taken a mighty steam hammer to do the job.

Fortunately, the property was split up into two buildings, one of which had been built some 50 or 60 feet away from the original building, so that the firemen were able to confine the damage to the building in which the fire started. They were also able to save the engineer's residence, which is only 40 or 50 feet away on the east side.

As one would expect, news of a fire in an orchard district like Doncaster, spread very rapidly, and it was no time before shareholders and directors were on the scene. Naturally, the first thought of the directors was for the

provision of temporary plant

to take care of some 50-odd thousand cases of fruit in the larger section of the building, which remained, and in a few hours Mr. J. J. Tully's new "Fordson" tractor was hitched up to drive the fans and brine pump in order to circulate the air and get the benefit of the cooling effect of the brine. By this time the service staff of R. Werner & Co., who installed the Orchardists' Refrigerating Plant, had been notified, and it was very fortunate indeed that a 25-ton enclosed type compressor was found in stock. This machine, while on the small side to do the job to the full capacity of the store, was estimated to be capable of holding the temperature down, until such time as further provision could be made for additional temporary plant. Just how much was spent for telephone calls and how many gallons of petrol were used on that memorable Good Friday will never be known, but engineers were pulled back from holiday visits, motor transport drivers induced to take the risk of operating on such a day without a license, and the place soon became a hive of industry with carpenters, welders and engineers, all pulling their weight to save a further loss of fruit. Had sufficient space been available in other stores, it might have only been a matter of the owners of the fruit carting their produce away, but as those conversant with the fruit industry well know, such was not the case. Space was already strained to its last cubic foot, and many private stores were even at that moment engaged in adding some thousands of cases to their capacity such work being at the moment yet uncompleted.



S.S. CARLISLE

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PROMPT SERVICE - CAREFUL HANDLING - CHEAP RATES

The modern Patrick Steamers are specially fitted for the careful carriage of Fruit. Every shipment, whether large or small, is assured of the same personal interested attention. Prompt delivery and the greatest care in handling cargo are features of the Patrick Service
Steamers leave Melbourne, Sydney, Newcastle and Brisbane every week, carrying interstate cargo without transhipment. Cargo received daily. No need to book space. Consign your fruit to us, and we do the rest. For further information apply:—

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SYDNEY - MELBOURNE - BRISBANE - NEWCASTLE

100% KILL

. . of . .

Peach and Cherry Aphis

. . with . .

COOPER'S

OVICIDE

(TAR DISTILLATE WASH)

This is not merely the manufacturer's claim, but represents the results obtained by hundreds of commercial growers all over Australia.

Be sure, however, it is Cooper's "Ovicide" the original Tar Distillate Wash used in Australia.

FOR WINTER SPRAYING ONLY

COOPER PRODUCT

Manufactured by
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— THE —

BAVE-U

Power Sprayer

—— Keeps the Mixture in the barrel as even at the end as at the beginning of Spraying. ——

Information with pleasure.

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Box Hill, E.11
Victoria

he supply of the compressor have been quite easily solved by Wers, also all the necessary fittings, ing, welding equipment, and bed s for the foundation, with necesy bolts, etc., the question of driv- the machine became more or less te. Naturally, with electric cables ssing the door, one would first of think of merely getting the local ctrical authorities along and mak- the necessary connections, but s for Doncaster with its single ase supply, and not very much of at that, it was soon proved that ctricity would not be available in ough quantity, and even then was ite a long way off as far as time s concerned.

The average tractor was of course, ite inadequate in power, and then meone had a happy thought to heel in the local steam roller. This ly arrived about midday, with enty of smoke to add to that which as already coming from the smouldring ruins, but it was soon realised y those in charge of the work that it as going to be a tough job to take ower from the roller engine, as it ad never been designed for any other urpose than to drive the roller. Furher, the total brake horse-power vailable from such an engine is not n excess of 20 h.p., which, as facts fterwards proved, would have been utile in endeavoring to hold the store own to a reasonable temperature. However, arrangements were made or shafting and bearings, etc., and he roller was trundelled into position eady to be hooked up. Later in the vening, however, the directors of the tore were gradually convinced that greater and more suitable power would e necessary and after running the elephone wires red hot for another period, a decision had to be made for the straightout purchase of practically the only power unit that was available for delivery on the spur of the moment.

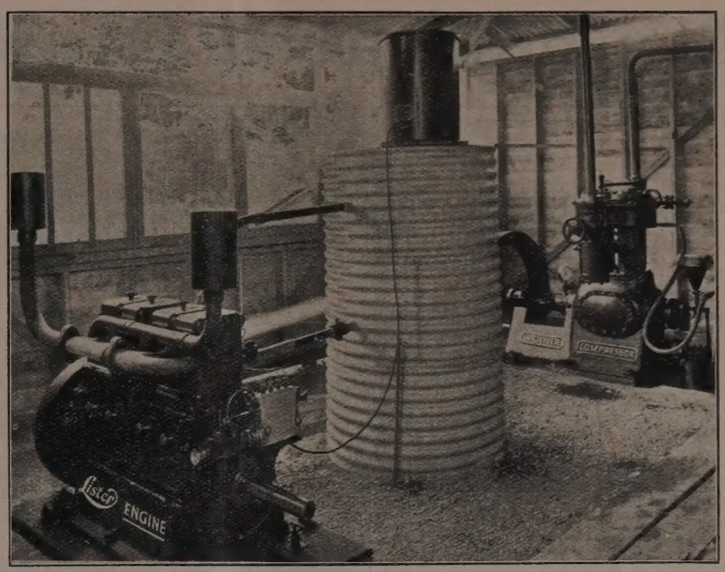
This was decided just a little before midnight on Good Friday, and within about half an hour, Mr. Tully's truck and one of Werner's cars with a staff of men, were en route for Mitchell & Co., of Footscray, where a 38 h.p. Lister crude oil engine was loaded on to the truck about 2 a.m. Easter Saturday morning. In the meantime most of the workers had retired to snatch a few hours sleep with the necessary transport arrangement having been made to pick them up again about half past 6 in the morning.

Temporary electric lighting having been provided, the engine was unloaded and the necessary assembly made by Mr. Millen, of Mitchells, and Mr. Dobney, of Werner & Co., who worked through the night to catch up with the lead that the refrigerating engineers had got for the moment.

Fortunately, the bed log timbers had been laid out to take an electric motor and were just about heavy enough to take the compact Lister engine. Daylight arriving once more with reinforcements of workmen, who were divided up into sections working on different parts of the job, and rapid progress was then made in the fitting up of all the necessary connecting pipes that are needed for a refrigerating plant.

Temporary water connections had to be made, to condenser and compressor, temporary belting arranged for, also supplies of ammonia to charge the plant, and lots of things that normally take weeks to do were arranged in a few hours. Heartened at intervals by supplies of hot tea and refreshments by the wives of shareholders of the store, the work pushed forward at a splendid rate, and shortly after dark on the evening of Easter Saturday, a test run was given to the engine, which lived up to its usual standard of Lister efficiency, and started off with the first turn of the cranking handle. No time was then lost in fitting the belts and getting the plant under way, and it must stand for all time as a tribute of organisation, that it was only a little over 36 hours after the outbreak of fire, that refrigeration was once more turned on to the cool store. While the engineers had been so busy with their tools of trade, carpenters had built a temporary shelter for the machinery as it was necessary to protect both the engine and belting at least from the elements.

While the day of the fire was most unfortunate and not being a regular holiday, there was also something to be said in the fact that the weather was cool, which of course was materially in the favor of all concerned in the matter. Late on Friday evening, about a ton of dry ice was used in the cool stores, and had the effect of holding the temperature to a few degrees, and at least gave the shareholders a good deal of peace of mind while the plant was out of action.



Temporary plant installed at the Doncaster Cool Stores.

The temporary plant, as depicted in the illustration on this page, has run almost continuously since the time of the fire, and has done a wonderful job, and as conditions of operating the store have now been returned to normal.

About a week after the first plant started up, a further temporary compressor having a maximum capacity of about ten tons was installed, so that shareholders are now enabled to use the store to its full extent. It is on record that many years ago, Mr. R. Werner, Snr., was asked by a leading orchardist in Doncaster what would happen in the event of a serious breakdown, to which Mr. Werner replied that the store would be operating again within two days from such a time of breakdown. It was pleasing to note that Mr. J. J. Tully, in moving a vote of thanks to men who worked on the job, for their cooperation and energy, remembered this particular point, and said that he would be pleased to report to Mr. Werner that his staff had lived up to that promise made long ago.

While the fire was undoubtedly a disastrous affair for many, there may be one bright spot in the fact that had no temporary plant been available it might have been a very awkward situation for those who still had their fruit in the store.

DANGER.

She: I don't like riding with you, you're too reckless.

He: That's right too. We've had some pretty tight squeezes, haven't we?

The Codlin Moths' Worst Enemy—

Orchardists, who for many years have sprayed with "Aero brand" Arsenate of Lead, still say that it is the most effective Arsenate of Lead they have ever used.

Its exceeding fineness and lightness in texture, its high covering and killing power, the ease with which it mixes and remains in suspension in the spray tank, place "Aero brand" in the front rank of all Arsenates of Lead. Although of such superior quality, it costs no more than inferior arsenates.

Interested growers may obtain full particulars from the Manufacturers or from any of the Interstate Agents listed below.

BICKFORD'S "Aero" BRAND ARSENATE OF LEAD

By every Test Bickford's "AERO" Brand is Best

INTERSTATE AGENTS:

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Felton, Grimwade & Bickford Ltd.,
397 Murray Street, Perth.

NEW SOUTH WALES—
Buzacott & Co. Ltd.,
7-11 Market Street, Sydney.

QUEENSLAND—
Buzacott (Queensland) Ltd.,
443 Adelaide Street, Brisbane.

TASMANIA (Northern Districts)—
Gardner & McKenzie Pty. Ltd.,
64 Cameron Street, Launceston.

TASMANIA (Southern Districts)—
Port Huon Fruitgrowers' Co-op. Association Ltd.,
Davey Street, Hobart.

It Pays to Plant GOODMAN'S FRUIT TREES

With the planting season just ahead, Fruit Growers are now preparing their lists for planting new orchards or replanting old ones.

Plan— Your Requirements

and send to Goodman's EARLY. Excellent stocks are available in all varieties — all true to label, well rooted, strongly grown, healthy trees that will yield prolific crops of finest marketable fruit.

Goodman's Famous Nurseries

cover over 170 acres under intense cultivation. These Nurseries are regularly examined each season prior to sending out trees and a clean certificate can be had with each consignment if desired.

ORDER NOW

APPLES — All leading varieties for every purpose, worked on Northern Spy blight-proof Stocks, also root grafted.

Almonds, Apricots, Peaches, Pears, Plums, Cherries, Nectarines, Citrus Trees, Small Fruits, etc. Expert packing and prompt despatch to any part of the World.

Write for Catalogue.

C. J. GOODMAN
— Picnic Point Nurseries —
Bairnsdale - Victoria

Mould Control in Citrus Fruits

(FROM THE COMMONWEALTH COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH, AND THE DEPARTMENTS OF AGRICULTURE OF N.S.W., VICTORIA, AND SOUTH AUSTRALIA, IN CO-OPERATION.)

(Continued from April Issue.)

2. **The Presence of Mould.**

(a) **General.**

We have discussed in the previous section the innumerable ways in which wounding in citrus fruits can occur and have also pointed out that wounding is a prerequisite to fungal wastage. For practical purposes it may be assumed that absolutely sound fruit is not generally liable to attack.

The second condition

necessary to ensure mould wastage is the presence of the mould. This does not mean that given 100 per cent. incidence of injury in fruits and the presence of mould spores in the atmosphere or surroundings, 100 per cent. mould wastage will be encountered. It indicates rather that all wounded fruits are liable to attack, but the percentage that actually becomes infected depends upon the degree of contamination or number of mould spores present.

It is obvious that 50 mould spores could not immediately infect 100 wounds, but on the other hand it must be remembered that infection of a single Orange will result in the reproduction within a very short time of sufficient spores to contaminate heavily the atmosphere of the packing shed. The lesson to be drawn is that, even though it is impossible to eliminate the presence of mould entirely, practices designed to reduce it in quantity will surely be followed by a corresponding reduction in the mould wastage experienced.

Many shed managers are under the impression that, if the "sterilising" bath is effective in killing mould spores present on the fruit, no wastage will occur.

It must be emphasised, however, that this procedure is almost useless if, after emerging from the bath, the "sterilised" fruit is again exposed to the contaminated atmosphere of the shed.

Assuming that the fruit is wounded —and we are reasonably assured of 50 per cent. wounding in any packing shed under present conditions—mould spores again lodge on the surface of the processed fruit and are retained there by the wrap. The fruit is then placed with others in a case and the fungus allowed to develop under the most appropriate conditions of warmth and moisture.

(b) **Contamination on the Orchard.**

Since wounding may occur at any time from picking to packing of the fruit, it is necessary at least to attempt to secure a reduction of mould contamination even on the orchard itself. Occasionally mouldy fruits are to be seen hanging on the tree, and more frequently lying on the ground. These should be collected periodically and destroyed, either by burning or by tipping into a fly-proof pit.

Gloves and aprons are potent sources of contamination, and it is a common practice to leave a few Oranges in the picking apron when it is thrown on one side. Gloves and aprons should be sprayed with a solution of chlorine (10 parts available Cl_2 per million) at the end of the day.

Picking boxes are commonly very heavily contaminated by mould, as is evidenced by the green color which they assume when in use for some time; a brief inspection of the stacked boxes at any shed will reveal their condition. Tanks containing boiling water, in which the cases may be immersed after each delivery, have been provided in a number of sheds. This process, while lethal to mould, may do harm if it loosens the nails by swelling and shrinkage of the timber.

A safe and certain remedy is provided by steam sterilisation after the manner of milk cans in the dairy factory.

Granted that boxes are in a clean condition when delivered at the orchard, it must be remembered that mould is commonly present on particles of organic matter in the soil, so that the introduction of soil to the box not only results in wounding, but serves also to reinfect the box.

(c) **Contamination in the Packing Shed.**

On arrival at the shed the fruit, particularly if required for export, is stacked for a period of **sweating.** During this operation a certain percentage of mould develops, and extreme contamination of the packing house results. Sweating should, therefore, never be carried out in the packing shed or its surroundings. If sweating is considered necessary, the fruit should be stored in an isolated shed on the grove and at its conclusion all mouldy fruit removed before delivery to the packing shed. The sweating shed should be sprayed with chlorine solution before the next lot of fruit is stored.

These remarks apply to some extent also to the **ethylene coloring chamber.** The provision of the necessary facilities and supervision, however, demands that this work should be carried out at the central shed. It is advisable in this case to see that the door of the coloring room does not open directly on to the space occupied by the shed plant from which the room should be isolated by a close fitting partition.

Perhaps the

most important consideration

is the avoidance of introducing even one single mouldy Orange into **the plant** with the remainder of the fruit. During its progress each of the units in turn become infected, and mould losses will be greatly exaggerated.

While some provision is generally made to ensure apparent cleanliness, many shed managers fail to appreciate the necessity for true hygiene, involving strict elimination of infective material from the shed and its surroundings.

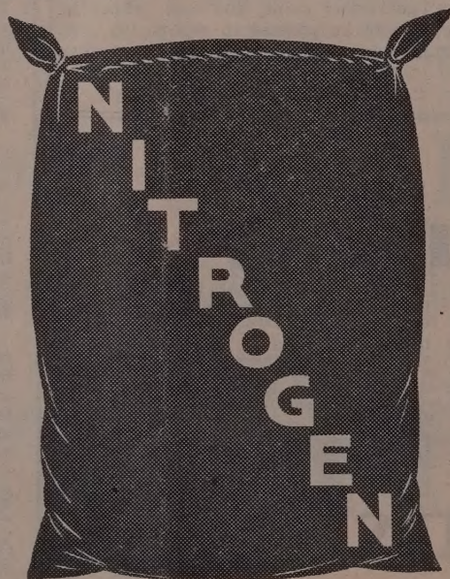
A glance under the plant, in sundry corners, in sweat boxes, and around the grounds in the vicinity of the shed reveals in many cases the presence of mouldy fruits in various stages of degeneration.

In addition, there is often to be seen a pile of boxes containing wasty Oranges held until such time as they accumulate in sufficient numbers as to form a suitable load for the dump.

The SECRET is OUT!

The SUCCESSFUL FRUIT AND VEGETABLE GROWER

knows the VALUE of



DEMAND MIXTURES OF HIGH NITROGEN CONTENT AND SUPPLEMENT THESE WITH WELL-TIMED TOP-DRESSINGS OF

H24/37

SULPHATE of AMMONIA

(CONTAINS 20 PER CENT OF NITROGEN)

s not practicable to remove each ldy Orange from the shed as it ound, but it is essential that it ld be placed in a properly covered outside the four walls of the l. Such waste as accumulates ng the day's run should be tipped a fly proof pit, or alternatively, troyed by burning.

he practice of throwing waste it in an uncovered heap in prox- y to an orchard cannot be too ongly condemned.

Having accomplished all that is ssible to

prevent the introduction

mould spores into the shed, it is ll necessary to reduce that which ll be present even when all logical ecautions are taken.

The best method of so doing is to ash the floor and plant nightly with per cent. solution of caustic soda number of proprietary preparations re equally effective).

The walls of the shed, canvas bins, olishing brushes, etc., which cannot e washed in this way, should be well prayed with solution of chlorine or ith ammoniacal copper carbonate, 12 nts of ammonia (26 deg. Bé), 20 unces of copper carbonate, and 100 allons of water. The ammonia is irst diluted with 2 gallons of water. he copper carbonate is made into a aste with water and slowly added to he diluted ammonia. Water is then dded to make up 100 gallons.

Office equipment, furniture, etc., where such is housed within the shed, should likewise be sprayed nightly with solution of chlorine.

The cleansing method here advocated has been thoroughly tested and shown to give a remarkable reduction in atmospheric mould contamination within the shed. It is unfortunate that most of the Australian sheds were constructed before the importance of a very strict hygiene was realised and hence do not lend themselves by reason of wooden flooring, etc., to the thorough cleansing that is required. It is recommended that, in the future, citrus packing house construction should be modelled upon the lines of a modern dairy factory, in order that correct sanitation may be fully accomplished in practice.

To sum up, shed contamination may be reduced below the danger point by (A) avoidance of unnecessary inoculum, (B) sanitation, as follows:—

A. Avoidance of unnecessary contamination—

1. Clean picking boxes, gloves, aprons and clippers.
2. Soil contamination.
3. Sweating chamber.
4. Ethylene chamber.
5. Exclusion of mouldy fruits from plant.
6. Disposal of waste fruits.

B. Reduction of contamination by sanitation—

1. Washing with ½ per cent. caustic soda, or other suitable fungicide.
2. Spraying with solution of Chlorine (10 parts available Cl_2 per million).
3. **Conditions for Development of Mould.**

Assuming injury to the fruit and the presence of mould spores within the wounded tissues, certain conditions yet remain before rotting can commence. Of these the most important is temperature. Humidity is normally an important factor in the germination of fungal spores, but in this case ample moisture is provided by the Orange itself.

The temperature-time relations for the development of mould in Oranges has been investigated by Dr. R. G. Tomkins of the University of Cambridge, England. At a temperature of 75 deg. F. an infected fruit will become appreciably rotted, i.e., it will develop a soft spot about one inch in diameter, after three days. Reduction of temperature will retard the development of the rot (see table below) and at a temperature of 40 deg. F. the fruit will resist the fungus for approximately 30 days.

Temperature-time Relations for the Development of Rots in Oranges.

92 deg. F.	75 deg. F.	70 deg. F.
8	3	4 days
65 deg. F.	60 deg. F.	55 deg. F.
5	6	8 days
50 deg. F.	45 deg. F.	40 deg. F.
10	16	30 days

It will be seen from this table that Valencia Oranges marketed during the Summer merely require to be wounded in an atmosphere of contamination for wastage to occur on the local market. The figures also explain in part why mould wastage is far more prevalent in late than in early Washington Navels.

It is not possible for the shed organisation to control the temperature factor without the provision of cool storage.

It has been discussed here merely to show the possibilities that exist in the matter of losses through mould wastage. If due regard is paid to the avoidance of contamination and wounding, the marketing of citrus fruits in Australia may be undertaken with confidence.

New Zealand News and Notes

Total Apple Export Under 1,000,000 Cases

(By Our Correspondent.)

ANOTHER MONTH will see the end of harvesting for 1937. It has been a peculiar season, disappointing as regards production, but satisfactory on price, with export prospects remaining fairly good. Unless something phenomenal happens, New Zealand is certain to fail on its 1937 quota, and as the season is well through a miracle cannot be expected.

Nelson, the main-stay of the export trade, is unlikely to exceed 650,000, it will probably be nearer 600,000. The **Otago** crop will pack out to expectations, but other districts, with the absence of **Hawke's Bay** through the frost, do not account for any great quantity. It therefore appears that New Zealand's total figures will be under the one million cases for all markets.

Opening prices in London will return shippers a good margin. A small line of New Zealand **Cox's Orange Pippin** on the first steamer went as high as 25/-, but with heavier arrivals the market is back to 14/- to 18/-, still this is a very satisfactory price for the shipper. **Worcester Pearmain** realised a surprisingly good average, and it is worthy of note that this variety, while never doing anything exceptional, always brings the shipper out at a profit.

Jonathan, which will be the main-stay of the mid-season varieties, opened at 14/-, but have come down to 11/- and 12/-, and will probably stay in that neighborhood, until supplies become very much heavier.

In a recent air-mailed market report from London we notice N.S. Wales Jonathans quoted from 11/- to 12/-, and Argentine Jonathans at 12/- to 14/-. There must be a reason for this, and it will be interesting to know how the two packs compare.

Insufficient notice is being taken in Australia and New Zealand of the development of the Argentine fruit trade. This country has taken advantage and copied the up-to-date methods of the large American organisations. All fruit is going through central packing sheds, and the proprietary companies who are largely responsible for the business are evidently fully acquainted with the necessity of quality goods, if they are to compete on the overseas markets. The Argentine has also the advantage of trade treaties with Continental countries, whose doors are practically shut to Australia and New Zealand to-day. **From all the information available it is apparent that the Argentine will be a serious competitor within a very few years.**

Spray Injury:

A proprietary wetter and spreader, well known on the Australian and New Zealand markets is reported to have been responsible for a considerable amount of spray injury to **Sturmer**, in the Nelson and Marlborough districts. The extent of the damage varies. A few growers have been unable to export any Sturmers owing to unsightly brown-black russet showing on the fruit. There is an indication that on some of the fruits the damage has gone below the skin. A survey of the damage is being made by Departmental Officers in Nelson and a representative of the manufacturers.

It is strange that the same material has been used in other districts with evidently quite satisfactory results, and even in parts of Nelson where half-strengths were used no damage is apparent. Of course, various theories are being put forward as to the whys and wherefores, but no doubt within the next few weeks an official statement will be made. It is a very serious matter to the individual grower to lose a crop through no fault of his own. Where the damage has been most severe the material was used at the recommended strengths.

Local Market Investigation.

Some details are now available of the report made by the Commission set up by the present Government. We understand that Cabinet has not yet had the opportunity of considering this report, so it is not known whether the recommendations made will be adopted. These recommendations include bringing all Horticultural producers under the Government marketing Department, the appointment of a Director of Marketing with local control authorities consisting of three growers representatives and two Government nominees working under the jurisdiction of the Department. The first Board to be nominated by the Government, after that growers members to be elected by popular vote.

The Commission evidently visualise the **necessity of cool stores** in various centres under the control of co-operative bodies. **Compulsory standardisation** to be an essential feature of any control. The present programme seems to indicate the introduction of compulsory standardisation to cover cool stored fruit in store from August 1 onwards.

The grading should be particularly simple, as export grades will be the standard with a domestic grade to cover the best of the lower grade fruit.

The distribution of the £40,000 which has been made available by the Government is a question which has given those concerned a considerable amount of thought. The present proposals are to arrive at a New Zealand average price from copies of account sales from all fruit sold locally, which are to be supplied by growers to the Department. From this the New Zealand average will be determined. Assessment has been made as to what should be considered a fair and reasonable price, taking into account production and packing costs, with a reasonable margin to the grower. If the actual average is below the assessment, up to £40,000 will be distributed on a pro rata basis irrespective of the individual average of each grower.

In many ways there is a lot to recommend this proposal, as it eliminates the old objection of subsidising the grower with the poor varieties, in other words, giving him an encouragement to carry on, whereas he should probably be working over part of his orchard. Some official statement is expected before long. In the meantime, the information above is unofficial and is liable to amendment.

Speaking generally there is no particular need of any interference this season, as with light supplies, market prices on the average are

"HILLMAN" ORCHARD STRIP PLOW

Double Furrow

A sturdy, strong plow equipped with reversible discs to enable the operator to plow up to, or away from the trees. Operated by a single lever and with nothing to catch branches of trees. To facilitate the movement of the plow around the orchard the discs are movable and lift clear of the ground.

The steering arms are drop forged from the best mild steel and the main wheels are equipped with ball bearings.

Two medium horses can work this machine all day without tiring. A machine may be obtained for a trial at any time.

Further particulars apply . . .

HILLMAN & KEOGH

Implement Manufacturers

Shipley Street, Box Hill, Melbourne, E.11

showing the grower a good return, with the prospect of exceptionally good returns immediately the packing season closes.

1938 may be a different story, and it can be expected that New Zealand as a whole will carry a good crop, and with the limited population that means a low price average on the local markets.

Local Prices.

Exceptionally good realisations are being secured for certain varieties of fruit on the Wellington market. Winter Cole Pears are realising as high as 15/9 per three-quarter case. Keiffer Pears have been up to 13/-, and Quinces as high as 17/-. Grannie Smith touched 13/-, but the price has dropped as a result of heavier supplies. Cox's Orange Pippin have gone to 12/-, but here again, mature tree-ripened fruit showing signs of collapse has bought the market back again. These figures are an indication of what can be expected of the market when orchard supplies fall away, and cool stored stocks provide the principal demands. These wide fluctuations will then be avoided, because of continuity of supply. It is surprising that in face of these prices, quite a considerable quantity of Pears have been exported overseas. Pears must go higher as supplies are particularly light.

April 14, 1937.

Fruit Transport by Sea

To Interstate Markets

IN REFRIGERATOR or COOL, WELL VENTILATED 'TWEEN DECK specially adapted for Fruit Carriage and fitted with powerful Electric Fans.

FAST MODERN PASSENGER VESSELS

Sail every Wednesday and Saturday for Sydney and Brisbane.
Sail every Saturday for Townsville and Cairns.

CARGO VESSELS sail Weekly for Sydney and Brisbane (Tuesdays).

SPECIAL REDUCED RATES OF FREIGHT.

FURTHER INFORMATION, SAILING DATES, ETC., WILL BE GLADLY SUPPLIED ON APPLICATION TO THE UNDERMENTIONED COMPANIES AT MELBOURNE:—

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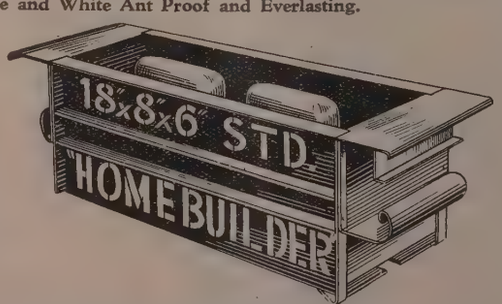
CEMENT BLOCK-MAKING MACHINES FOR ALL BUILDING REQUIREMENTS

WHY not build your own Home, Drying Shed, Packing Shed, Garage, Dairy, Outbuildings, etc., in your spare time with blocks made with our machine? MUCH CHEAPER THAN BRICK OR WOOD. Fire and White Ant Proof and Everlasting.

Our 18in. (length) x 6in. (width) x 8in. (depth) STANDARD MACHINE (Incomplete)



Our Standard Block-Making Machine (illustrated) is supplied complete with all fittings to make 18 different styles of building blocks.

Price - £6/10/- Nett

The same machine can be supplied with fittings to make 9 different styles of building blocks.

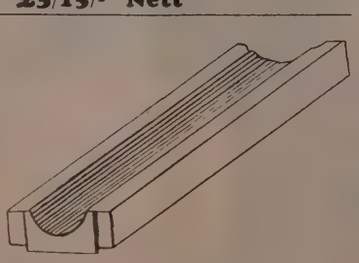
Price - £3/15/- Nett

CHEAP CHANNELLING

The Channelling Machine, for making pieces for surface or underground drains, 24in. long by 6in. channels can be reinforced if required, and each piece is made at a cost of only threepence for cement.

Dove-tailed end of Channel Piece simplifies laying.

Irrigation Channel Machine, 24in. long, 6in. channel.



Price - £4/10/- Special Sizes, 10/- extra (Plus Sales Tax)

Write us for Price List and full particulars, and we will be pleased to forward evidence of efficiency.

George W. Mawman (Manufacturer), **Cheltenham Rd., Black Rock, S.9. Vic.** **Tel. Works: XW 1751.**

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Letters to the Editor

COMPULSORY HAIL INSURANCE.

(Editor, "Fruit World.")

Sir,—

We have had a series of severe hail storms over the past five years, causing heavy losses. Hail insurance is a vital question in this district. Unfortunately, the growers are not insurance-minded in the Granite Belt.

The last ballot held on insurance by the C.O.D. resulted in the district being cut into two sections, one for and one against. Unfortunately, hail fell on the just and the unjust in both areas.

The amount of insurance to be paid depends on the amount received by levies, plus a small subsidy by the Government. A company has taken a few growers at 12½ per cent.—quite out of reach of many growers.

I give you the following suggestion for what it is worth. My scheme is a Federal-wide scheme. In short, all primary producers whose products are subject to damage by hail, late frosts, drought, etc., pay into a common Federal Fund a small levy per bushel or per ton—the fund to be subsidised by the Federal Government. The Federal Government to pay each grower per medium of their State assessors—practical men with experience to be appointed in each district.

This fund would grow to enormous proportions in a very few years, and the Federal Government loan could be paid off. The levies could be collected by the railways or agents handling products. I suggest 1d. (one penny) per bushel on all fruits, citrus, deciduous, Bananas, Pines, grain, etc., including exports. We then could build up a fund to help organised marketing, stabilise various industries, etc.

I am not in favor of ballot, it should be a compulsory measure. The man on the land is not sufficiently organised to secure a yes vote.

Yours, etc.,

E. S. PIKE.

Pozieres, Queensland, 18/2/37.

A VALUABLE CROP.

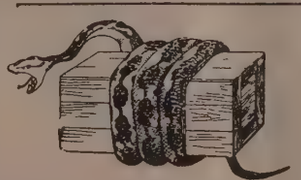
We draw attention to an interesting announcement in this issue by Tung Oil Mills Ltd., 66 King-street, Sydney. Tung oil is in keen demand by paint and varnish manufacturers throughout Australia. All orchardists and farmers within the correct climatic areas should send to the company for particulars of tung trees which have already been successfully established by many growers in various parts of Australia.

APPLE WIPING MACHINE.

Because of the difficulties associated with washing fruit to remove spray residue, a South African firm, after reading a notice in the "Fruit World," has written to the manufacturers of the Perfection Fruit Wiper, at Croydon, Vic., for full details. It is stated that in South Africa the washing with hydrochloric acid, while very expensive, is the only method in force there at present. An effective wiping machine would be a boon.

The only fellow who has the right to criticise is the man who has done something worth while—and he won't.

The All-Australian Wire Tying Machine



The PYTHON JUNIOR

Simplifies Your Packing

By Using Wire from the One Coil for All Size Packages. Cut Lengths may also be used

The Python Junior

will tie more cases per thousand feet of wire than any other machine.

Top lever action, uniform tension, speedy and easy to operate with an offcut of 2¾ inches.

PYTHON has all the essentials for a perfect pack.

EMBODYING

EFFICIENCY — SPEED — ECONOMY

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Victorian News and Notes

Horsham and Nearby Orchards

(By Our Travelling Correspondent.)

HORSHAM, situated 205 miles N.W.W. of Melbourne, on the overland railway to Adelaide, is the most important town in the Wimmera district.

The Wimmera River flows through the town, which is now a borough, with a resident population of six or seven thousand.

The town has all the conveniences, viz., water, electric light, sewerage, etc., with A1 bitumen roads, and may be termed self-contained, for its stores, mills, banks, showgrounds, sportsgrounds, public parks and gardens are in keeping with the necessities of its citizens.

Every week stock sales are held in the commodious yards of Young Bros., Wilson, Bolton, and others, and heavy bookings with good prices are realised.

"Riverside," "Youngs" and "Haven" are fruitgrowing centres near Horsham, all being supplied with water by channel.

Sons of Messrs. Ford Bros., Harcourt, Vic. Three budding young orchardists.

The **Riverside** colony, three miles out, situated on south side of the river, is still a very fine example of what can be done in a hot dry climate under irrigation, backed up by scientific knowledge, intelligently applied.

Young's, with the exception of two or three growers, has been cut up into building blocks, on which are settled a number of retired farmers.

Haven growers, with the exception of one or two, are concentrating on Tomato culture, in this sandy area; Tomatoes do remarkably well and have and are returning good money, but unfortunately this is detrimental to the orchards, especially as codlin moth control is sadly neglected.

If these folk would keep poultry (and form an egg circle), use chemical bandages, place lures in the trees, spray as the weather dictates, and **immediately** destroy infested fruit, cleaning up old heaps of boxes and rubbish, there is no reason why good clean crops should not be profitably harvested, for this district can grow W.B.C. and Packham Pears, Cleopatra and Jonathan Apples to perfection—all rather expensive pig and cow food.

:: :: ::

Riverside, where Messrs. Bird, Robson, French, Grabsch, Lampart, Butler, Rogerson, Stewart, Brown, Smith, Parish, Baudinette, Phillips, Puls, and Mrs. Jardine, have their orchards, and Frank Abernethy his poultry and mixed farm is quite in a different category. These lands are heavy black loam and under expert irrigation, cultivation and pruning, can boast of heavy crops of quality stone fruits and Pears, without much manure; these lands are very rich and require personal experience to handle properly.

:: :: ::

Mr. C. N. Bird's 22-acre orchard, on the extreme east of Riverside, grows all the useful varieties of fruit in systematic sequence, for market. Mr. Bird gives personal attention to every tree and the result proves the master orchardist. Visitors to Riverside should see this orchard before leaving the district.

:: :: ::

Mr. G. French, who has already picked 30 cases per tree from a number of his W.B.C., has a mixed orchard of market varieties, in addition he grows 20 acres or so of Potatoes; at the time of writing, the land was bulging with tubers, and the last (light) watering given; paddocks of lucerne for hay and green fodder are flourishing on this rich land, which is fed to the Ayrshire herd of milkers, amongst which are Scottswood and Beryl 3rd, prize-takers and test winners at the Horsham Shows. Mr. French is to be commended for his enterprise.

:: :: ::

Mr. E. L. Puls, opposite French's, is an enthusiastic orchardist, and thoroughness is exemplified by the architecture of his trees and cleanliness of cultivation. Previous to "going on the land," Mr. Puls was in business successfully.

:: :: ::

Mrs. E. Jardine, in conjunction with her staff, was seen packing Pears for market, here again are heavy crops of this fruit and enormous trees. The Apricot is extensively grown, the trees showing fine growth of dark green foliage, all being of the same contour, and although planted 24 ft. apart, are touching in the tops. It is really surprising how well stone fruits do here.

:: :: ::

Mr. Parrish, like his neighbors, was busy harvesting and preparing fruit for market. The writer noted the enthusiasm displayed by Mr. and Mrs. Parrish in everything about this orchard, which is planted with stone and other fruits, the Apricot and Peach predominating. Perfect harmony of interest is here shown, in the fine condition of the place. Watering was also in progress.

:: :: ::

Mr. G. A. Baudinette, with a 20-acre orchard next to Parrish's, has a right to be proud of his place. These lands (heavy loam) grow stone fruits (unsurpassed anywhere else) to perfection, providing right methods are used, and Mr. Baudinette no doubt, has put these plans to the best of use.

On the southern side of this property is a young Peach plantation of extreme merit, and near the centre are Apricot trees with a spreading circumference of quite 36 yards. Potatoes (under irrigation) are also successfully cultivated, a good crop is now nearly ready for digging.

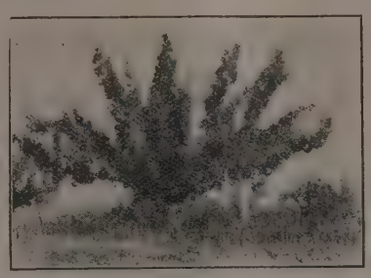
Victorian Fruit Districts

Quantong - Elphinstone - Shepparton

(By Our Travelling Representative.)

QUANTONG was described in earlier issues of the "Fruit World," some concluding notes are as follow:—

About a quarter of a century ago, **Mr. C. Waltrowicz** purchased E. Lillywhite's original Quantong property, and this sufficed to keep him and his wife and family well occupied, but now that his two sons have reached their majority, several other properties and lands have been added to the Waltrowicz estate. Their original holding was one of the most prolific bearing orchards on this irrigated



Rymer Apple tree at the orchard of Mr. Ted Eagle, Harcourt (Vic.), carries 50 cases.

all always has a large compost and area, having been planted for interpollination purposes, in addition to being the home of hundreds of ducks and fowls, the previous owner was a believer in heavy manuring and cultivation.

Mr. Waltrowicz is one of a well-known family of wheat growers, and for many years, in conjunction with the family, was engaged in wheat and sheep farming, but the drought years turned his eyes in the direction of this green oasis.

Mr. and Mrs. W. Overall, Senr., who commenced very modestly when first coming to Quantong, are to be congratulated on their success, having raised a family of about twelve children, nearly all of whom are married and settled on the land. The Overalls were the first to grow Tomatoes and Melons commercially, and their successes have been followed by many others. The parents are now living in well-earned retirement. Mr. Overall always has a large compost and manure heap, in the condition ready for the garden, and attributes his successes, in a large measure, to heavy manuring and perfect culture.

Elphinstone.

ELPHINSTONE, situated about 70 miles north of Melbourne, is well served with railway facilities and good roads, being on the Bendigo line, generally known as the "Great Northern."

For years the country around here was considered only suitable for goldmining and quarrying.

The climate being so genial on these highlands, 1,400 ft. above sea level, some thinking folk, observing the water race passing by on its way to Harcourt and Bendigo, from the Malmsbury Reservoir, which is 1,500 ft. above the sea, looked about for suitable land for irrigation purposes, of which plenty was available at low cost.

At present quite a number of orchards and dairy farms are established and doing well.

These people, who are only a few miles south of the famous Harcourt, have copied the systems in vogue there, consequently they have attained immediate success.

Mr. Gersch, orchardist, and family of Quantong, Vic.

Acres of irrigated maize, lucerne and pastures dotted about all over the countryside, are adding beauty to the scenery, as well as profit to Elphinstone and its folk.

Tourists by train should keep a lookout on the right when approaching this locality from the south, they will then notice poultry farms, orchards and dairy farms, spaced along and running parallel to the line.

The first place of note is **W. Critchley's,** whose ten-acres of orchard, comprising Apples and Pears, shows the result of expert attention. On this

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orchard, all the manure (1,000 bags) is yearly distributed from his poultry farm of over 1,000 layers. Only Leghorns are kept in specially constructed houses of hardwood and galvanised iron, with cement floors. Mr. Critchley is a builder by trade and has designed a unique container for catching and holding the droppings from the perch. This is easily emptied and so the scratching litter is kept comparatively clean. No male birds are seen here — pullets from a reliable source are purchased, and so far have proved profitable, so much so, that the proprietor, as soon as he can get the building ready, intends to greatly increase his stock.

Mr. W. Birchall, who has been an appreciative subscriber to the "Fruit World" for a number of years, has established 18 acres of Apples and Pears, and although a novice when he started, can now show a property of which he is justly proud.

Poultry in conjunction with fruit culture has been planned here also.

Mr. Booth was not at home when the writer called. A very fine orchard property in conjunction with poultry farming is to be seen.

Mr. L. J. Brown, who has a well-kept small orchard, which will be extended, is running a sawmill with his father—cutting fruit cases and building timber.

Mr. J. Bassett, who cultivates his orchard by tractor power, specialises in Jonathan and Rokewood. The first-mentioned were being packed for export at the time of our visit. The fruit was particularly well colored.

S. Millford, nearby, whose people are orchardists of Harcourt, believes in red Apples and grows Rome, Rokewood, Jonathan and King David. In this locality they seem to be a better paying proposition than the green varieties.

Mr. Pollard has erected a capacious packing house, equipped with modern appliances, the whole being a complete job. Here Apples and Pears are prepared for market, great care being taken.

The writer noted some magnificent London Pippins (trees and fruit), also Granvenstein.

Mr. Fred Ellery, "Fredalma," Faraday, is a farmer and grazier, in addition to growing 28 acres of Apples and Pears, etc., thus plenty of farmyard manure is available for the orchards, consequently heavy crops are the order here.

Mr. H. Ellery, like his brother, Fred, is also conducting mixed farming. The Jonathans here on March 1 were a complete brilliant red, and therefore are much sought after. Other varieties are also grown on this 30-acre orchard.

VICTORIA.

MANY INSTANCES are recorded where benefits have followed the following by growers of the spray programme as set forth by the Dept. of Agric. for the control of codlin moth and black spot. A grower at Strathfieldsaye, in a check of 47 cases of export Apples (Dunns) lost only nine Apples through codlin attack.

The cleanness of the export Pears at Shepparton is very pleasing.

Reports received by Departmental Officers show that there was very low infection by codlin in the Mornington Peninsula. At Doncaster the export fruit is the best harvested for many years.

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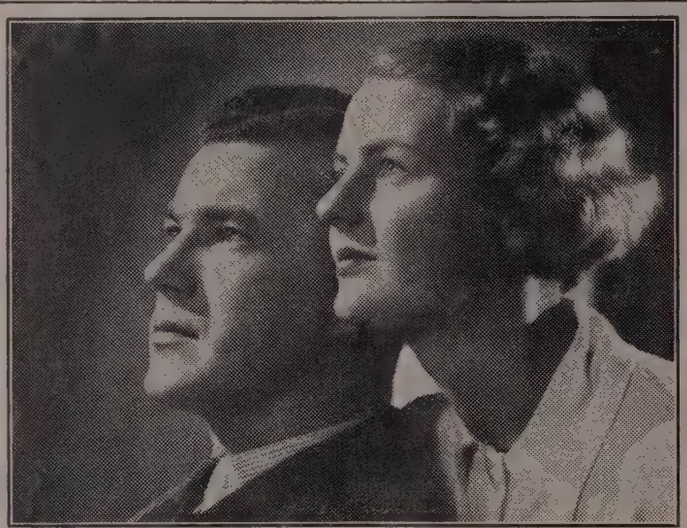

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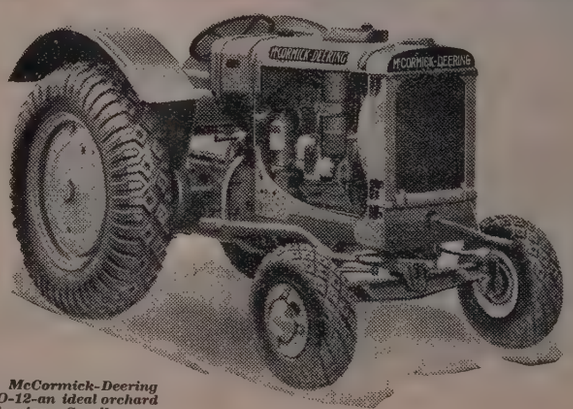

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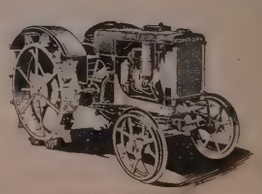

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TASMANIA

Monthly Orchard Notes

Growers Adopting "Crown" Pack and Guaranteeing Nett Weight.

A SUMMARY of information dated April 2, 1937, received from the Chief Horticulturist, Tasmanian Dept. of Agriculture, from the District Orchard Inspectors, together with other information relevant to fruit culture is as follows:—

Weather and Crops.

Throughout the last month seasonable conditions have been experienced and the precipitation recorded on the 18th and 19th arrived very opportunely, and has resulted in satisfactory development continuing in the later Apple varieties. Occasional light rains have assisted materially in the coloring of certain varieties which had previously been poor. It is also noticeable this year how the January rains affected different Apples; such varieties as **Scarlet**, although fruiting very heavily in some areas, have turned out excessively large, whilst **Jonathan** and **French Crab** in the same districts have remained small. Each variety has a period during which particularly rapid growth is made, should moisture be plentiful at that time oversized fruit is likely and conversely should it be absent, even plentiful moisture at a later date will often give only a poor response. Naturally soil and other factors will tend to modify the reactions detailed. Hailstorms have caused considerable loss in South-Eastern districts, but in general the crop is picking out more heavily than was anticipated, and the quality is of a high standard.

The following rainfall records have been made available by the Commonwealth Meteorologist, and are given for representative centres. Franklin 189 recorded as compared with an average of 252; Hobart 147 as compared with the average of 173; Launceston 212 as compared with the average of 169 points.

Harvesting and Packing.

Up to the present weather conditions have proved ideal for harvesting and little inconvenience or interference has been caused through rain. Careful selection at harvesting will generally save much trouble and congestion in the packing shed and reduce the extra sorting necessary, to a minimum; it must be remembered too, that even the best lighted sheds do not give the opportunity for rapid and thorough culling that is possible in the open. Color grading too, may be done with advantage at the time of picking. It is not always convenient to clean up under the trees immediately after picking, but the importance of destroying diseased fruit or fruit affected with codlin moth, without delay, cannot be stressed too strongly.

Packing instruction has been proceeding continuously, and it is encouraging to note the number of contraventions recorded at the wharf for "slack" packing has gone down very considerably during the last three weeks.

Packers throughout are rapidly getting a grip of the "Crown" pack in the Canadian type case and many growers have installed scales in their sheds to ensure that the net weight will be well over 40 lbs.

This is a good guide to the pack, and where the weight is lacking it may be safely assumed that the pack is incorrect or the wrong one has been adopted for that particular size. Instances have been recorded where the Instructor has had to put as many as 55 extra Apples (2⅜ in.) in a case to fill it properly.

A rough range of weights taken from packed flexible-lidded standard cases are as follow:—Cox, 45-49 lbs.; Cleo., 43-48 lbs.; Tasmans Pride, 43-45⅛ lbs.; Jonathan, 43-46 lbs. The low limit and high limit are for large fruit and small fruit respectively. Where there is any doubt in the matter of packing, growers are urged to communicate immediately with the Department of Agriculture, or with the Packing Instructors situated in their particular district so that arrangements may be made for a practical demonstration.

An increasing number of growers are stamping their case with a net weight guarantee and placing the count rather than the size of the fruit on the cases; this is in accordance with the North American system with which buyers and agents overseas are familiar, and under which fruit is sold in England and the Continent throughout the greater part of the year.

School Packing Classes.

It is hoped that a start may be made with school instruction early in May, and as it is desired to get arrangements well in hand schools intending to take advantage of this are asked to forward their applications to the Chief Horticulturist, Department of Agriculture, Hobart.

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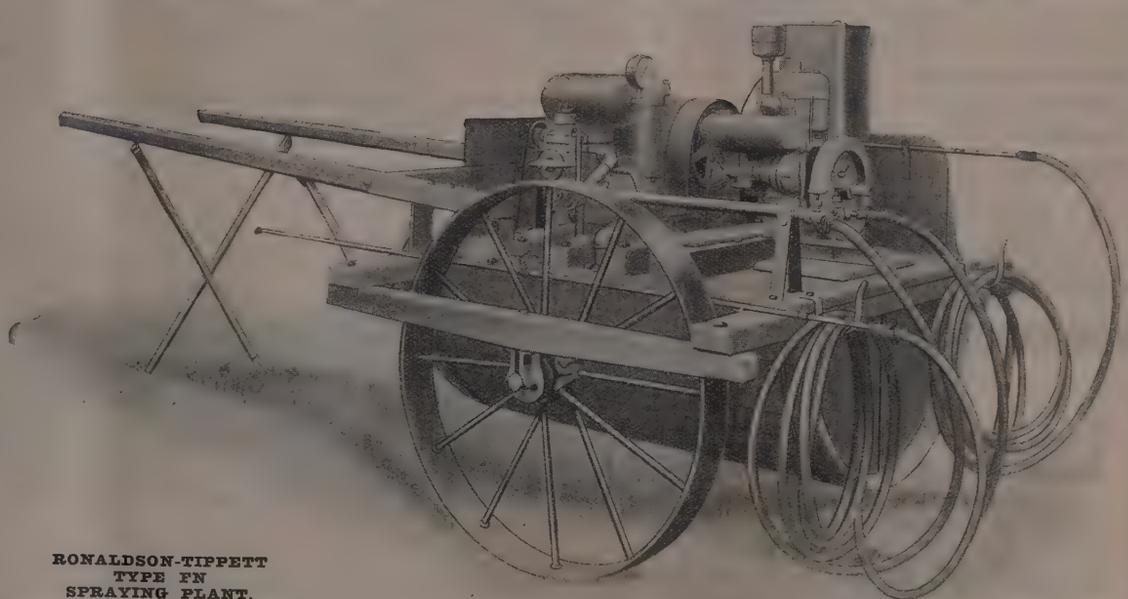

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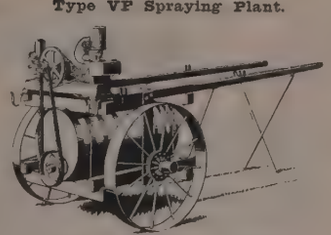
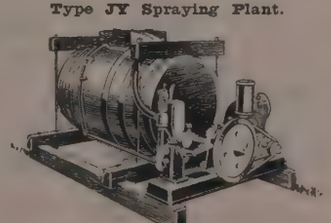


Type JY Spraying Plant.



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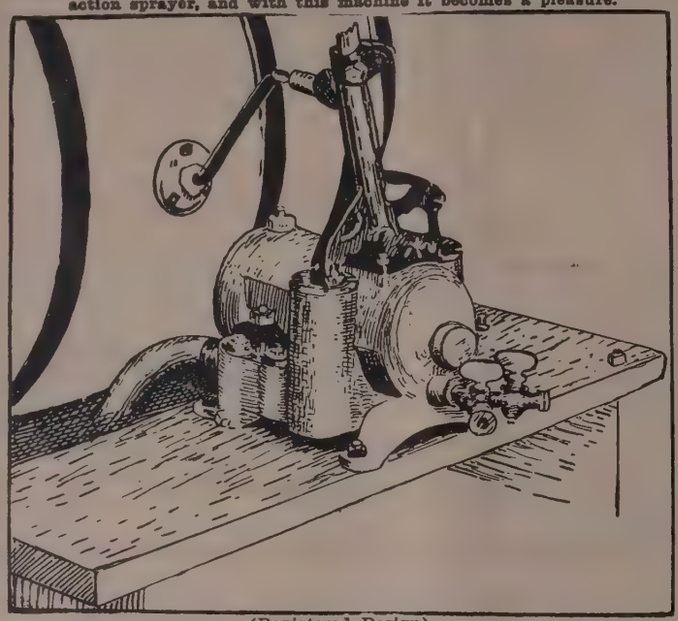

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S.A. Fruitgrowers' & Market Gardeners' Association

April Executive Meeting.

THE monthly executive meeting of the S.A. F. & M.G. Association was held on April 30. Mr. N. T. Hobbs occupied the chair. Present: Messrs. J. B. Randell, G. H. Parsons, W. H. Ind, M. E. Schache, J. Elliott, C. W. Giles, C. H. Ragless, W. J. Bishop, G. Jennings, R. Cramond, H. N. Wicks, A. J. Hollister, G. T. Pitt, G. Schultz, F. Hughes, C. Ridley, J. Turner, A. C. Gibson, C. Pitt, L. J. Wicks.

Mr. A. G. Strickland wrote in relation to the proposed regulations governing the sale of immature fruit, and he strongly urged the deletion of the words "Apples and Pears." He had been in communication with the Secretary who had consulted several growers, who approved of the deletion. Messrs. J. B. Randell and G. H. Parsons endorsed the Secretary's action. Mr. Randell explained that cooking Apples could not be applicable to the term "immature" as it is necessary to pick them slightly immature to gain full flavour when cooked. Duchess Pears also were a much better fruit, when picked slightly immature, rather than allowed to ripen on the trees.

The chairman welcomed Mr. J. J. Elliott, Barmera, to the meeting, and explained that he was in Adelaide making arrangements for a satisfactory disposal of the Pea crop. Mr. Elliott expressed thanks on behalf of the Barmera branch for the helpful work the Association had done for the branch in assisting to establish a much better freighting and marketing system last season. It was hoped this season to exploit this system to the full. Many advantages had been obtained in freight cost, marketing supervision, carting charges, exchange and numerous other expenses, which with the aid of the Association had been reduced considerably. The area planted with Peas was increasing each year, and growers were hoping to put their produce on the market on a sound basis. Potatoes are also being produced in splendid order in the district, and assistance in marketing will be appreciated.

A letter was received from Mr. A. R. Hilton, head of the Urrbrae Agricultural High School, re the aims and work of the school in which many fruitgrowers' sons are being thoroughly trained in horticultural and agricultural subjects.

Mr. H. N. Wicks moved: "That Mr. Hilton be invited to address the third quarterly meeting of the Association." Seconded by Mr. W. J. Bishop and carried.

The Minister of Agriculture wrote stating that our request re registration of nurseries, had been placed on the agenda for consideration by conference of Ministers of Agriculture at Canberra. Mr. H. N. Wicks reported that it was essential that regulations concerning registration of nurseries must be considered as a Federal matter, and not one for individual States. It is likely that an interstate conference of nurserymen will be held very shortly, when this very important subject will receive full consideration.

Mr. W. J. Bishop reported on the activities of Cherry Section. A deputation had visited the South Australian Railways, many reforms had been suggested, and the Department had promised to give them consideration.

A discussion took place on the alteration of loading days. Many members thought it would penalise growers supplying Adelaide market if day of loading were altered. Others disagreed, and it was decided that matter be referred to Sections and referred back to sections interested in export to Eastern States for full consideration.

Mr. Randell, chairman of Potato Growers' Section, reported that the committee had recently considered the suggestion made by the Federal Potato Advisory Committee, that legislation should be adopted in all States for the registration of all growers of over half an acre of Potatoes. A small fee would be charged, and funds be used in efforts to stabilise the industry in all States. It was reported that south-eastern Potato growers favored such a step being taken. The committee will confer with them, and a scheme outlined in co-operation, will be submitted to growers.

Secretary reported that Celery export to Eastern States was now taking place, that to Brisbane being very much greater than hitherto. An attractive system of advertising is expected to materially increase consumption.

On behalf of Blackwood Cool Stores, Mr. Turner complained that when inspection of fruit was being made at shipping port, samples were taken out and not replaced with fruit or wood-wool, and thus movement of fruit took place, causing damage. He suggested that attention of Department should be called to this, and that cases affected, should be marked "Opened for Inspection."

President stated that several meetings had been held to consider the shortage of timber required for crates and cases; the price of which had risen considerably. The Government had promised to do all possible to assist growers to obtain their requirements.

Mr. A. C. Gibson, on behalf of Marion Branch, drew attention to the serious advance in price of "Bluestone," which is used so extensively by members. This matter was referred to the Trading Society. Members were reminded of Mr. Edquist's lecture on May 19, on "The Composition of Soils."

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South Australian News and Notes

INCLUDING OFFICIAL NOTES AND REPORTS FROM THE SOUTH AUSTRALIAN FRUITGROWERS' & MARKET GARDENERS' ASSOCIATION.

Celery Growers Meeting

THE Celery Growers met on April 5 to discuss matters connected with past and coming Celery Export season.

Mr. Strange, Chairman of the Celery Section, presided, and reported that there had been a considerable increase in the quantity sent to Sydney last season, and that the price was quite 6d. per crate higher than that of 1935. There was still need of better distribution among the agents, and growers can help the Committee get an improvement. The two delegates who visited Sydney had received a very encouraging welcome, from former agents, and had added several others, as previously reported. Mr. Mills had been reappointed as representative, and prospects for further increase in supplies were good. The elimination of one of the steamers from the Sydney trade had caused the Committee concern, and may result in having to use the train, via Broken Hill, earlier than usual, and probably twice weekly. He appealed for loyalty to the Committee, and the newly-appointed Organiser, Mr. R. G. Bartram.

Mr. McRostie, as usual, received a warm welcome, and his report on last season's activities, and prospects for coming season was most informative.

He gave details of quantities received by each of the agents, which showed that some received very small supplies. There was a gradual improvement in the way growers graded and packed their celery, but there were still some who were very negligent, and sent inferior quality, which had a depressing effect on the market. There appeared every prospect of an increase in the quantity which other States could absorb. Every care should be exercised in regulating supplies to prevent indiscriminate forwarding. He commended the growers for making available funds for an advertising campaign, as efforts in this way had, no doubt, a very beneficial effect, and helped to make the Celery industry what it has become.

In answer to a question by a grower as to the likelihood of New South Wales growing its own Celery, Mr. McRostie said that we need not be afraid, but it was more than ever essential that we only send the very best quality put up in the best way.

Meeting of Tomato Growers

MR. F. G. GILL, Chairman of the Tomato Section, presided over a well attended meeting of growers on April 9. He reviewed the growth of the Section during the last eight years. Many of those present had assisted on committees and could look back with satisfaction on the progress made, and being continued by their successors. In spite of some opposition in certain quarters, and apathy by a small number of growers, the industry had been placed on a firm basis, and the export had increased greatly, and many persons were now engaged in the industry, the great majority of them being loyal to the Committee.

Fortunately, the dreaded Leaf Mould did not cause so much damage as it threatened to do at one period, but growers must use every effort to check its spread. There had been an increase in number of houses erected, and it is essential that fresh markets be found for this increase in supply. This is a task to engage the attention of the Committee in the next season.

Mr. McRostie quoted figures giving totals of Celery, Tomatoes, Cherries, Loquats, Cucumbers and other vegetables which had been exported by various sections, benefiting the growers by stabilising local market, and benefiting Railways and State generally. He spoke of the competition in the Tomato market, to meet which it is more than ever necessary to specialise in grading and packing. There had been some trouble because growers had not adhered to Victorian Regulations, especially with the larger fruit. There had been an improvement in rail transport, and owing to this, and prevalence of cooler weather, very little damage had been caused by over-heating. Supplies had been more evenly distributed, and there was no glut in early November.

The market is often affected by the arrival of very green fruit, and growers are being repeatedly asked to refrain from sending it, and also they should brand cases, stating correctly the state of maturity of contents. The following resolution bearing on this was carried:—"That this meeting suggests to the Committee that Tomatoes must be true

Panoramic view of Pitt Bros.' property. The dark patches are potatoes.

CHERRY GROWERS MEETING.

THERE was a good attendance of members of the Cherry Growers' Section at Ashton on April 7, when Mr. W. J. Bishop presided, and welcomed Mr. C. W. McRostie, who has done so much for the Cherry growers in improving marketing methods in Victoria.

The figures supplied showed a very considerable inprovement, although weather conditions were frequently unfavorable. The cessation of the usual fast goods trains during the holidays caused growers much inconvenience and added cost. Efforts to get reforms in this direction will be made by the committee, and those of other sections. Owing to shortage of suitable timber, the cost of cases is likely to be increased. Every effort will be made to get further supplies released by the authorities at no increase in cost to growers.

Mr. McRostie suggested improvements which are necessary in packing, and distribution to the agents. There is keen competition in the Cherry business, and growers would be wise to refrain from sending any varieties other than those which carried well. Efforts are also to be made to exploit other avenues of distribution, of which growers will be kept well informed.

Notices

Executive Meetings.

The monthly meeting will be held on Friday, May 28, 1937, at 10.30 a.m.

Business.

Reports from Sections and other general business will receive attention.

Suggestions for matters needing consideration by the Executive will be welcomed.

N. T. HOBBS, President. W. J. KIMBER, Secretary.

Marion Branch

This Branch has pleasure in announcing that at its meeting on Wednesday, June 2, 1937, Mr. A. R. Hilton, Head Master of Urrbrae Agricultural High School, Fullarton, will give an address on "The Cultivation of Sweet Potatoes, Sweet Corn, and Sweet Melons." The cultivation of these has been much neglected, but a market for them can be confidently hoped for. All vegetable growers are invited to attend. at Sturt Hall, at 7.30 p.m. on above date.

I. R. ADAMS, President. J. R. DUNCAN, Hon. Sec.

Educational Meeting

The next Educational Meeting is to be held at Association's Board Room on Wednesday, May 19, 1937, at 8 p.m. Mr. A. G. Edquist, of Teachers' Training College, will deliver an address on

"The Formation of Soils."

Members are asked to make a special effort to attend!

Subscriptions Due

If your annual subscription for year ending August 31, 1937, is not already paid, please send it to General Secretary, or pay Mr. Ron. Beck, in the market. —W. J. Kimber, Gen. Secretary.

Seed Potatoes.

The Fruitgrowers and Market Gardeners' Society Ltd., of 288a Rundle Street, Adelaide, has pleasure in announcing that it has been appointed Selling Agent by PITT BROS. of ASHBOURNE, and would appreciate your enquiries with reference to Seed Potatoes for 1937.

MEMBERS!

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to color stated; if grower offends, then he should be reported to an inspector."

The need of a Field Officer to advise Tomato and vegetable growers as to methods of preventing damage by insect and fungus pests, was brought under notice of the Minister of Agriculture last November. He had replied that consideration had been deferred, but would receive attention. The meeting again expressed a desire that such an officer should be appointed, and that the Government be asked to grant the request, as the importance of the two industries warranted the expense which would be incurred.

Much dissatisfaction was expressed at the very low prices which sauce manufacturers had paid for Tomatoes for several years, and it was agreed that some effort should be made to remedy this state of affairs, preferably by conference.

Mr. McRostie, the Association's representative in Melbourne, and the Committee, were thanked for their services during last season.

Urrbrae Agricultural High School

For Students Interested in Primary Production or Allied Pursuits

THIS school is ideally situated at the terminus of the Fullalton car line, adjacent to the Waite Research Institute on land made available by a generous gift of the late Mr. Peter Waite. It is a Secondary Day School for students who are interested in primary production or allied pursuits.

Students who have completed their primary school course by passing the Q.C. Examination are eligible to attend. The cost is the same as at other Government High Schools.

For students whose homes are at a distance from the school, suitable boarding accommodation can be arfor in the neighborhood.

Many boys travel daily to the school from other suburbs, and some come by service cars from distances up to 20 miles.

The course of study includes the following subjects: English, arithmetic, mathematics I., II., chemistry, botany, and agriculture, with farm bookkeeping in first year (Latin if needed for degree course).

Student may sit for the public examinations in the above subject.

Students are encouraged to go on to Roseworthy College. Some do this with the aid of scholarships. Thirteen students in the past five years have continued their studies at Roseworthy.

Agriculture includes the study of crops, animal husbandry, farm mechanics.

Crops subdivided into cereals, horticulture, vegetables, pastures.

Animal Husbandry: Cow, pig, sheep, poultry.

Farm Mechanics: Rope work, milk testing, harness work, carpentry, sheet metal, smithying.

Competitions are given in milk testing, pruning, stock judging.

Excursions are made to Roseworthy College orchards and farms.

Sport is catered for in the spacious school grounds.

The course is a three-year one.

The Head Master would be glad to give parents any further information.

"G.B." Dusts
EFFECTIVE G.B DUSTS
"G.B." Sprays

A.P. 50. NICODUST. AZURINE.

MONOHYDRATED COPPER SULPHATE for Celery, Tomato and Potato Blight.

BORDEAUX POWDER for Spraying. Save the bother of mixing Bordeaux Mixture.

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1937 *Catalogue will be ready in February*

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DEVOTED EXCLUSIVELY TO THE
PRODUCTION OF QUALITY FRUIT TREES

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Balhannah Nurseries, Balhannah, S.A.

SOUTH AUSTRALIAN VEGETABLES AND FRUIT.

Vegetable Freight Rates are Too High.

The present freight rates on vegetable consignments appear to be altogether too high; most of the vegetables forwarded East are cased, and consequently it seems to be an anomally that the vegetable rate is higher than the fruit rate. If the Railways Department brought the rate down, much bigger tonnages would be handled, and an expansion in the vegetable production would take place.

Train Timetables.

Mr. C. W. McRostie (Melbourne Representative) has advised the Adelaide office that arrangements have been made whereby the first freight train will in future arrive at Spencer Street at between 2.30 and 3 a.m. on Tuesdays, Thursdays and Saturdays. This will mean that on most occasions delivery will be given early enough for produce to reach the market at a satisfactory time.

Ballarat Agent Visits Adelaide.

Mr. F. Morrell, manager of North-Western Fruitgrowers Ltd., Ballarat, visited Adelaide recently. His firm was the Ballarat distributor for the Association last year, and the object of the visit was to enable Mr. Morrell to make personal contact with the growers.

Increase in Celery Freight; Severe Impost.

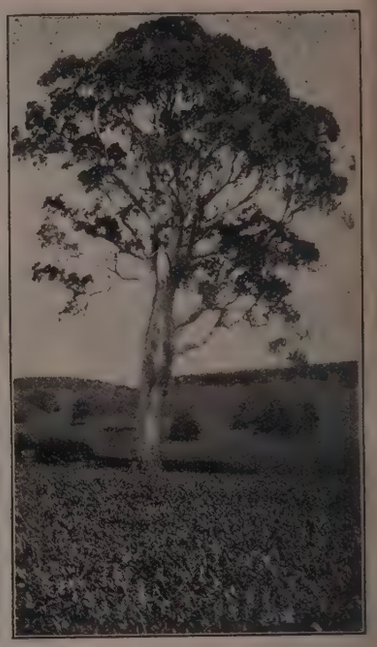
Celery growers shipping to Sydney will be placed under a severe impost this year, when the shipping freight rate will be increased by no less than 6d. per crate, or an increase of 20 per cent. There appears to be little justification for such a substantial increase, which will certainly curtail development in the Celery industry.

The Melbourne Market.

Celery shipments commenced during April, and while small quantities were placed on the market, prices were at a satisfactory level.

As is usually the case early in the season, some of the Celery did not open up in good condition, most of the trouble being "brown heart."

Towards the end of the month the consignments arrived in perfect condition; but prices fell with the increased quantities.



Potatoes at the property of Messrs. Pitt Bros., Ashbourne, S.A.

At present the market is weak, and stocks are clearing slowly. This is largely due to the substantial supplies of "local" Celery which is being placed on the market at present.

Grapes.—The very bad weather conditions which prevailed almost throughout the month, and the considerable supplies from Victorian Irrigation Areas, had a very weakening effect on selling rates, and prices were far from attractive. The prospects of better results towards the end of the season are improved by a decline in general deliveries.

MR. McROSTIE'S ANNUAL "HOLIDAY."

MR. C. W. McROSTIE, who has represented the Fruitgrowers' and Market Gardeners' Association in Melbourne for about eight years, has spent a very busy fortnight's "holiday" among the members of the various sections of the Association, as the record of meetings held will show.

On April 2 he met the Celery Section Committee, and as the export season has commenced there were many matters requiring attention. Unfortunately the early Celery had felt the effect of adverse weather during the humid conditions in February, and was not arriving in good order in Eastern States. A trial of a different system of packing was made, and reports of condition on arrival will be considered, and probably alterations will be advocated, as every effort must be made to retain the industry in face of threatened competition.

The Committee intends to issue an attractive recipe folder and other advertising matter in all the States in order to increase the demand for Celery.

Under Mr. McRostie's supervision there has been a most satisfactory increase in the quantities sent to Melbourne, and the Committee is seeking further markets in Western Victoria which has hitherto received inadequate supplies.

The policy of the Committee in appointing agents in Brisbane has met with much success, and that market has proved better than anticipated, and growers are assisting the Committee most loyally in regulating supplies.

The Committee was glad of the opportunity of conferring with Mr. McRostie on many aspects of the regulation of the supplies sent to Melbourne, and methods adopted to fix prices payable to the grower, and satisfactory to the consumer.

POTATO SECTION.

A meeting of the Committee of the Section was held on April 23, when Mr. Strickland, Chief Horticultural Instructor attended by invitation.

Mr. W. Henning, chairman of South-Eastern Potato Growers' Association, reported on the business done at the meeting of the Federal Potato Advisory Committee, held in Melbourne recently, at which, unfortunately, the Association Potato Section was not represented. The Federal Committee recommended that all Potato growers should be registered and that steps be taken to give this matter effect. The minutes of the Federal Committee's meeting proved very informative, as was also a draft of a Bill proposed by New South Wales bearing on registration and its benefits. Committee decided that it would co-operate with the South-Eastern growers, and that Potato growers would be called together to consider a Bill when drafted. Growers can inspect the New South Wales Bill at the office of the Association.

The District of Ashbourne.

MEMBERS are strongly advised when visiting the Southern watering places, to travel via Ashbourne, as the scenery, after passing Meadows, is of surpassing beauty, and full of interest to the geologist and all others fond of nature study.

Ashbourne is 38 miles from Adelaide, and it is noted for the fertility of its soil. This fertility was no doubt noticed by the early Colonists, as the land was taken up in 1850 by several families, whose names became well known throughout the southern districts. Among them were those of Messrs. Rogers, Kirkham and Keeling, who came from Ashbourne, in Derbyshire, England.

The district was originally called Finnis Flat, but later was known as Ashbourne, in honor of the old home.

Recently, stone has been received from the old parish church, and has been placed in a prominent position in the local church.

In addition to thousands of acres of good grazing land, there are approximately 1,000 acres of rich alluvial flats, which were formerly used for dairying purposes, but latterly, for Potato and Apple growing.

Potatoes have done remarkably well, and among those specially interested in their production are Messrs. Pitt Bros., on whose property the accompanying photographs were taken.

This property of about 800 acres was taken up by Malin Rogers about 1850, and on it was built the first stone house, the site of which is now marked by a heap of stones only, for many years it was noted for the breeding of Shropshire sheep by various owners whose reputation was State-wide.

When Messrs. Pitt proved its suitability for Potato growing, it became necessary to remove some of the red gums from the alluvial flats, and it is recorded that from one of these giants, 200 broad-gauge sleepers were cut, with a pit-saw!

Some very prolific crops of Potatoes have been dug, the main variety being Carmen.

Messrs. Pitt have taken much interest in the Potato growing competitions arranged by the Mount Compass Branch of the Agricultural Bureau, and for several years have donated the seed from which such phenomenal yields have been obtained, such as that recorded in last month's "Fruit World."

There are many fine Apple orchards in the district, and that of Mr. H. R. Meyer is noted both for the quantity and quality of his crop. He is also a very successful Potato grower.

Mr. C. J. Pitt is a member of the Potato Section Committee and ably represents the Section as a delegate to the Executive. In this he is ably "following in father's footsteps," as his father, Mr. Harry Pitt, of "Kapoola," Payneham, has taken much interest in the Association, having been Secretary, and also President, some years ago.

South Australia

MID-MURRAY NOTES

Referendum Reflections — Russetting in Apples and Pears — Sultana Drying — Full-bodied Sultanas at Renmark — Cover Crops Affect Production and Maturity — Bearing and Maturity in Relation to Following Year's Buds — Balanced Manuring — High Quality Dried Pears — Citrus Mould Control.

(By Our Correspondent.)

RENMARK, April 19, 1937.

IN THE PAST TWO WEEKS the writer has travelled twelve hundred miles, through some of the Mallee wheat areas of S.A., down through the fishing ports on the Lakes created by the waters of the Murray, on through the volcanic soils of Mt. Gambier, then into Victoria. A brief stay at Warrnambool was made before passing through those fine cities of Geelong, Bendigo, Castlemaine and Ballarat. A delightful week at Lorne was the main objective of the trip, and constituted the longest stop. The return trip embraced all those towns on the Calder Highway.

During the trip, contact was made with wheat farmers from Loxton and Horsham, fishermen from Meningie and Lorne; Potato growers at Ballarat; Onion and milk producers at Warrnambool; Apple growers from Harcourt and Doncaster. Each section of primary producers (if fishermen come into this category), has its problems concerning the marketing of their produce. In some instances an intelligent discussion could be indulged into, while in others matters were accepted with a fatalistic resignation.

Sitting next to me at table in Lorne was a

Doncaster Apple grower,

whose views on the recent Referendum were enlightening, but entirely astounding. The objective prompting the Referendum was entirely lost, due to a lack of understanding. However, it will ever be so I suppose. The majority of primary producers move in a little circle, and each section is so taken up with its own particular problems that no thought can be spared for other sections with a problem to settle. Some day the time will come when the primary producers of all States will combine to form a body for the mutual assistance of all.

Passing through **Harcourt**, we picked up a case of beautiful Jonathan Apples, and while discussing the incidence of russeting in this year's Apples, I was interested to hear some opinions regarding the cause. In some quarters it was attributed to Bordeaux spraying, in others to oil spraying, and other opinions seemed to favor the idea that it was entirely due to seasonal conditions.

This latter opinion I think is correct, for the reason that Duchess Pears in the Renmark area showed more russeting this year than ever before. Bordeaux spraying is not carried out in this area, and oil only used to a limited degree, so it would appear that abnormal russeting in two divergent localities could be attributed to adverse seasonal conditions.

On returning back home I found that an uninterrupted fortnight of bright warm

sunshine had dried

most of the fruit left on the drying greens, although isolated drying racks can still be seen with fruit on them.

With a record of about two months' splendid drying weather, the fact that there is still fruit undried, points to a

deficiency in drying plant,

a deficiency in this respect can be an expensive one if a break in the weather necessitates drying a large quantity by artificial means.

A special irrigation

is now in progress for the purpose of enabling growers to plant their cover crops, where they were unable to get them in with the last "special" a month ago. For this purpose, **Beans** are used almost exclusively, and although there has been a shortage of Beans in places, we have fortunately been able to get all we required.

Increased crops have followed the practice of planting leguminous cover crops each year, but the maturity of the fruit has been somewhat later than in years of smaller crops, which is only natural.

The problem confronting growers at the moment is whether we can hasten the maturity by a better

balance of manures

or whether maturity is solely dependent upon weather conditions during the maturation period. A good deal of controversy has taken place over this problem recently, and there are so many factors to be considered that to come to any finality each grower must satisfy himself by experiments embodying his own particular soil requirements.

Mr. A. V. Lyon, M.Sc., officer in charge of the C.S.I.R. Experimental Station at Merbein, has made some interesting experiments regarding **the bearing capacity of Sultana vines in relation to maturity of fruit**—if my memory is not at fault the conclusions are as follows: If a **Sultana** vine is allowed to overbear a crop, maturity is delayed and a natural reaction follows the following year in a light crop. Thus pointing to the fact that it is not possible for an average vine to bear a large number of bunches, and at the same time mature sufficient fruiting buds for the next season.

However, by removing a number of bunches in the Spring to the capacity of vine's ability to bear, it has been found that the bunches develop more sugar and bear equal weight in dried fruit to the vine's carrying a multitude of bunches. Furthermore, the controlled vines were able to mature a normal number of fruiting buds for the following year's crop.

High Quality Sultanas.

A visit to the Renmark Fruit Growers' Co-operated Packing House convinced me that this year's Sultanas, although rather darker in color than former years, shows a full-bodied fruit which can only be produced when fruit is fully sugared. Some of the early picked fruit is lighter in color and somewhat immature, but the greater bulk of the pack is of a class which should sell readily.

Packing and grading of **dried Pears** is now in progress, and it is pleasing to note the interest growers are taking in this fruit in the past few years. Dark fruit indicating insufficient Sulphur, is very rarely met with nowadays, likewise that dull yellow color indicating insufficient sunlight in the drying process is only seen in small quantities.

Each grower of this fruit takes a personal pride in producing a waxy, transparent Pear, with just sufficient sunlight to make it an attractive article. Every year this co-operative company gives a prize to the produc-

Colloidal Sulphur

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HOWARD'S COLLOIDAL SULPHUR

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The World's most efficient MANURIAL Insecticide and Fungicide

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KILL-A-MITE "Superfine Grade"

Promotes Growth — Restores Jaded Plants — Revives Faded Lawns.

Positively kills ANTS, Cabbage Grubs, Aphis, Thrips, Cutworms, Slugs, Pea Mite, Red Spiders, Snails, Slaters, (Wood Lice), Silverfish, Lucerne Flea, Eel Worm, Bulbmite, Canarymite, Codlin Moth, Woolly Aphis, Borers, Beetles, Cockchafers, Harlequin Bugs, and other pests and Diseases of Soil and Plant.

"COARSE GRADE" for Pests and Diseases of the Soil.
"SUPERFINE GRADE," for dusting Flowers, Vegetables, Trees & Shrubs, 4 lbs. 1/-, 7 lbs. 1/6, 28 lbs. 4/-, 56 lbs. 7/6, 112 lbs. 14/6, ex store, Melbourne. Obtainable in all States of the Commonwealth.

INTERSTATE DISTRIBUTORS:

New South Wales: D. G. Wills (Sydney) Ltd., 661 George Street, Sydney, N.S.W.

Victoria: Kill-A-Mite Company, 67 Roden Street, West Melbourne, C.1. Phones: F 3665, F 3666. G.P.O. Box 1374.

South Australia: P. S. Teesdale Smith, Hayward Building, Charles Street, Adelaide, S.A.

Western Australia: W. C. Thomas, Thomas Agency, Alliance Building, 96 St. Georges Terrace, Perth, W.A.

Queensland: Fertiliser Distributors Ltd., F.D.L. Building, Little Roma St., Brisbane, Queensland.

ers of the best fruit in every variety, and by following the advice of the writer of the Pear section, growers have raised the quality of dried Pears from a crown unattractive article to a thing of beauty, and to my mind, the most spectacular of all our tree fruits.

Citrus Mould Control.

Mould control in citrus fruits has occasioned growers of this fruit a good deal of concern in past years. In consequence of this the combined efforts of the State Departments of N.S.W., S.A. and Victoria, and the C.S.I.R., have made certain investigations which are likely to have far-reaching effects in minimising this evil. Although these investigations have only been made since 1935, the main cause of mould growths have already been made clear in the recent report issued by the joint Council.

The report is of such importance that I consider it would be a wise move to have it circulated in pamphlet form to every citrus grower. Distributions could be made from citrus packing houses to ensure that citrus growers could become conversant with the recommendations contained in the report before the picking season commences. Before it is possible for mould to develop, three conditions are necessary:

1. The rind must be injured.
2. Mould must be present in the form of spores in the atmosphere.
3. Conditions of storage must be suitable for the development of the rot.

To minimise or eliminate the above conditions, greater care is necessary in the orchard for the handling of the fruit.

I have in mind

the methods used

in the orchard by one of our successful Renmark growers many years ago, which were as follows:

Before picking commenced the men were lined up to have their fingernails cut short, instructions were given to treat each Orange like an egg, sweat boxes were lined with bags, and if a picker dumped the Oranges from the picking bag to sweat boxes unnecessarily, he was promptly sacked. This grower was called a "finnicky old woman," but his methods embodied all the precautions necessary in the above report, as needed to ensure a minimum amount of mould.

As picking and transport are responsible for about 50 per cent. of rind damage, which allows mould spores to develop, the successful handling of citrus fruits depends largely upon the treatment received in the orchard.

It can readily be understood that when the rind becomes damaged through rubs or scratches, the protective oil glands in the rind are removed, which allows ready access to the mould organism.

By placing a layer of wood-wool on the bottom of sweat boxes, rubs and scratches were reduced from 56 per cent. to 32 per cent.—quite a considerable reduction.

As a certain amount of skin damage is done during the

packing and grading

operations, recommendations have also been made to packing houses whereby this can be reduced.

For the short space of time the Council has been in operation, they are to be congratulated on the thoroughness of their investigations, and if growers will do their part, mould damage should be considerably reduced in the coming season. "Nemo"

VISIT TO NEW ZEALAND.

Fruitgrowers' Goodwill Tour.

A personally conducted goodwill tour of New Zealand for Australian fruitgrowers is being arranged for May and June.

The party will leave in the "Waganella" on May 19, arriving Auckland on May 25, and will leave Wellington on June 10 for Sydney where it will arrive on June 13. The tour ends at Melbourne on June 16.

It is hoped that by this personal contact the way will be prepared for a better understanding between growers in the two countries, leading to improved reciprocal trading.

SUGAR REBATES.

The Export Sugar Committee has fixed export sugar rebate as from April 1, 1937, as under:—

New Zealand — Fruit products, £4/11/- per ton; other goods, £6/11/- per ton.

Other Destinations—Fruit products, £17/16/- per ton; other goods, £20 per ton.

In Preparing Your Bordeaux Sprays Use . . .

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Sales on Commission, by Private Treaty only.

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We do not purchase.

Our Sale Rooms are the largest and most up-to-date in England; consignments are therefore displayed to the best advantage, consequently, our returns are the best.

We have specialised in the Sale of Australian Apples and Pears by expert salesmen for many years past, and we have the largest and best customers in Great Britain amongst our clients.

Bigger and better business is our objective.

We make advances to cover cost of freight, etc.

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Major Edwin G. Monro, O.B.E. (Chairman), Geo. Monro, C.B.E., Bert J. Monro, Captain J. Stuart Monro, Alex. J. Monro, and C. Cole.

Chief Agent in Aust.—Major H. Dakin, V.D., Goldsbrough House, Macquarie Place, Sydney, N.S.W.

Victorian Representative . . . . . Esmond Russell Pty. Ltd., 195 Collins St., Melbourne.
Southern Tasmanian Representative W. H. Ikin & Son, Dunn Street, Hobart.
Northern Tasmanian Representative Bell & Gerrard, No. 166 Cimitiere St., Launceston.
West Australian Representative . . . The Westralian Farmers Ltd., Perth.

New South Wales

Fruitgrowers' Federation of New South Wales

Apple Marketing Problem Serious — N.Z. Embargo — Citrus Advisory Council — Improvements Needed at Darling Harbor — Amendments Desired to Farm Produce Agents Act — Protection for Growers Under Fungicides and Insecticides Bill — Annual Conference.

A meeting of the Board of Directors of the Fruitgrowers' Federation of N.S.W. was held early in April.

There were present:—General J. Sanderson (in the chair), Messrs. A. U. Tolhurst (Orange), T. A. Dexter (Young), W. H. S. Wilkins (Yenda), H. Todd (Sydney), E. Ray Bathurst, F. S. Mackenzie (Kurrajong), H. C. Marrison (Goose Wallaby), W. James (Dural), R. F. Arundel (Wollongong), A. S. Brown (Summer Hill), A. E. Dillon-ap (Mangrove Mountain), A. J. Taylor (Wyoming), J. M. Baldwinson (Kenthurst), H. A. Stevenson (Murwillumbah), L. T. Foster (Market Representative) and E. E. Herrod (Secretary).

A heavy volume of business faced the Board, in addition to which provision had to be made for three deputations.

Mr. Hargraves (acting) (during the absence from N. S. W. Stevens), so was interviewed regarding assistance to distressed growers. The deputation was introduced by Mr. A. U. Tolhurst, after which the President briefly outlined the position of a number of growers, and Mr. James opened the discussion.

The speaker emphasised the fact that the depressed condition was due to two successive years of drought, and stated that the condition of a large number of growers in the coastal districts was serious. He suggested that the Premier might give consideration to the grant of money for relief of men who were hard hit.

Apple Position Serious.

A letter from the Apple and Pear Export Council was read. The Secretary explained that a large number of Australian growers resented against restriction of their supplies of Apples to Sydney. There was a threat to send all their crop that conform to the N.S.W. lower grades. This would amount to 1,000,000 cases, as against 300,000 from Victoria, which was necessary with the Sydney market.

It was decided that two delegates should be sent, and Messrs. A. Herring and E. Ray were appointed. Mr. L. V. Smith was appointed alternate delegate.

N.Z. Citrus Embargo.

Correspondence from the Department of Commerce was read advising that the attitude of N.Z. is that the question of embargoes cannot be discussed except in association with the question of trade relations generally between the two countries, and that negotiations cannot be entered into with the object from England of the U. Minister of Finance. The Department, however, advised that the question of making further representations with a view to securing entry of Australian citrus fruits during the forthcoming season is receiving consideration.

Darling Harbour Goods Yard.

The deputation to the Railway Commissioner consisted of Messrs. Stevenson, Foster, Brown and Todd, who reported that they had had a satisfactory interview. The request was for better facilities for unloading of fruit, temporary coverage during rain, and better lighting.

Mr. Garside said that he realised the need for these conveniences, but was reluctant to do anything of a temporary nature. He would see what could be done, and promised that the lighting would be attended to as soon as possible.

Farms Produce Agents' Act.

A deputation waited on the Minister for Agriculture and submitted the following matters:—

(1) **Licensing of Agents.**

(a) That the formation of a licensing board comprising representatives of the Government, producers and consumers be advocated.

(b) That representations be made to ensure the cancellation of the licence of any agent convicted of malpractice and that a further licence shall not be granted nor shall he be employed by any licensed agent.

(2) **Fidelity Bonds for Agents.**

That the bond should be fixed on the basis of turnover of the agents' business with a minimum of £1,000.

(3) **Selling Commission.**

(a) That the act should prescribe in detail not only the rate of selling commission, but the deductions that may be made from account sales.

(b) That the flat rate for the sale of fruit be abolished and a commission of 7½ per cent. only be charged.

(c) That the charge known as S. and S. be absolutely abolished.

(4) **Keeping of Books.**

(a) That the act in regard to the proper keeping of books by fruit agents should be enforced.

(b) That the regulations should provide for a record of sale at the time of sale being made on official stationery, each sheet being numbered and all sheets being required to be accounted for.

The Minister, in reply promised early consideration to the points raised.

Citrus Advisory Council.

The President and Mr. A. S. Brown reported having received notification that it was proposed to hold the first meeting of the Australian Citrus Advisory Council a Canberra on April 19 and 20. Both these gentlemen said they had known nothing of their appointment to such Council excepting through the newspapers. At a later stage of the meeting it was reported that N.S.W. appointments, according to the Press, were Messrs. J. Heane, A. S. Brown, J. W. Bleck and J. E. Ward.

It was resolved that the Federation strongly protest that four representatives for N.S.W. were not appointed, and that the Board should further protest to the Minister for Commerce against Mr. J. E. Ward's appointment as an Irrigation Area representative instead of the Board's nominee, Mr. V. C. Williams, of the Irrigation Co-operative Society, who is also Chairman of the Griffith Producers' Co-op. Co. Ltd., which body controls approximately 500,000 cases of citrus, a great percentage of which is exported. The Board considers that Mr. Williams should have been appointed to the Advisory Council.

Black Spot Experiments.

A report on the Government Biologists in connection with Black Spot on citrus and which was most comprehensive, was discussed. As the experiments are not yet complete or conclusive, this report is not available for publication. It is not generally known that the Federation has recompensed growers who place their trees at the disposal of the Department for these experiments.

Early Closing of Fruit Shops.

The Secretary explained that it was likely that fruit shops would be closed at early hours, and asked the Board to advise the attitude the Federation should take up. It was resolved that authority be given to assist such fruit retailers in certain localities that may have need to apply for exemption from restricted hours.

Fungicides and Insecticides Bill.

A deputation waited on the Minister for Agriculture and was supported by representatives of spray material manufacturers.

The case on behalf of the manufacturers was stated by Mr. N. S. Lane, who supported the growers' request for the early enactment of legislation to protect orchardists by the fixation of standards to ensure spray material to be of effective quality.

An actual case pointed out was that lime sulphur solution can be purchased in N.S.W. with a varying analysis of from 8 to 24 per cent. calcium polysulphides, whereas in practically all cases the labels bear the same dilution instructions. It is absurd, therefore, to assume that results would be comparable as in a bad "Spot" year the low percentage solution fails to control.

Re Codlin Moth Control. Instructional directions are given by the Department for the use of lead arsenate at the rate of three pounds (3 lbs.) in one hundred (100) gallons of water. This, it was presumed, was for lead arsenate of standard strength of over thirty per cent. (30 per cent.) arsenic pentoxide. Members of the deputation stated that without control by a local authority it was quite possible that the lead arsenate might be supplied with a much lower percentage of arsenic pentoxide, the grower not being protected.

In a like manner, it was pointed out that the same remarks applied to red and white spraying oils for red scale control. There was no regulation in force as to the specific gravity of the oil to be used or the content of oil in the spray emulsion.

Annual Conferences.

The Secretary reported arrangements being made to hold the annual conferences as follows:—

Central Tablelands — Orange, May 11.

Central Coast—Gosford, May 18.

Cumberland—Parramatta, May 18.

Irrigation Areas—Yenda, May 18.

Southern—Barlow, May 20.

New England—Armidale, May 26.

Central Rivers—Singleton, May 27.

Hawkesbury—Windsor, May 29.

North Coast—Murwillumbah, date to be fixed.

Annual general conference in Sydney on June 23, 24 and 25.

April 15, 1937.

BANANAS AND PASSIONFRUIT IN N.S.W.

Crop conditions regarding Bananas and Passionfruit are given in a report received from the N.S.W. Dept. of Agric early in April, as follows.—

Bananas:

Generally excellent growing conditions prevailed throughout all areas in March. Lighter supplies are anticipated from the Tweed Heads district, where heavy rains and winds caused considerable damage, particularly in older plantations. Erosion also was very noticeable on hillsides and in plantations where stones were removed. Damage of a similar nature is reported from Coff's Harbour and in some instances stools were completely washed out. Moderate consignments expected during April from this area.

Owing to the bad state of roads leading to plantations in the Woodburn district, cutting and marketing of fruit was restricted. Floodwaters are stated to have been responsible for the destruction of all crops in the Bungawalbyn and Swan Bay localities. Decreasing quantities expected in late April, following heavy consignments early in the month.

Well-worked plantations made excellent progress during the last few months in the Macksville district. At present, good supplies are coming forward, but indications are that production is now falling off.

Passionfruit:

Vines which are in good condition are carrying very satisfactory crops of Winter fruit, while harvesting of a light intermediate crop of well-filled fruit is proceeding in the Balmoral, Buxton localities. Given favourable weather, conditions prospects are promising.

Young plantations at Bailkham Hills show indications of moderate to heavy yields of Winter fruit, the bulk of which is showing better quality than for several seasons past. The area under cultivation is considerably below that of three to four years ago, but is now tending to increase. In the Woodson district vines are growing well and prospects are satisfactory.

Production has declined in the Maitland district during recent years, but odd plantations of excellent appearance are to be seen. Generally conditions have favored lateral growth and plenty of flowers are showing. There is only a limited area grown around Kurrajong, where cultivated, the vines are making plenty of growth and a medium to good Winter crop should be forthcoming.

Crops are very light at present around Macksville.

Gerrard Sales and Service

GERRARD

The customer is always right when he gives a clean acceptance receipt for cased goods wire-seal strapped for safe transport with GERRARD.

GERRARD

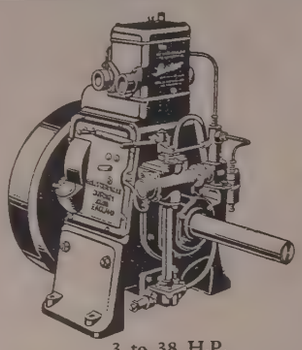
GERRARD WIRE STRAINING MACHINES CO. PTY. LTD.

ORCHARDIST'S CLAIM FAILS.

In No. 6 Causes Court, Sydney, on April 21, before Mr. Acting Justice Owen and jury, Ernest Ebert, an orchardist, of Griffith, sued Edgar Norman Swane, trading as Swane Bros., nurserymen, Sydney, to recover £250 damages. Plaintiff alleged breach of contract in respect of the supply and warranty of certain Peach trees. He complained that the trees supplied were not Golden Queens, the variety which he had ordered, with the result that he had been put to considerable expense in developing, cultivating, and rebudding the trees, and in other ways.

The defendant denied any agreement, or any breach, and pleaded that the plaintiff had, before the action, accepted £10 in full settlement of the claim.

A verdict was entered for defendant.



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Lister

CRUDE OIL ENGINES
Cut 70% off Fuel Cost

1. Fuel for 3-h.p. costs 1½d. per hour. 5-h.p. costs 2½d., 7 h.p. 2¾d., and up to 38-h.p. as marvellously low. Compare with your costs. It might pay to sell or scrap your present power unit and get a Lister.
2. Starts instantly. A swing of the flywheel and she's off—from dead cold, too!
3. No starting gadgets—no magneto, no spark plugs, no carburettor—just nothing to give trouble.
4. Absolutely reliable, steady power—suitable for driving anything anywhere.
5. Lister Diesels are EXTRAORDINARY—they are really wonderful engines. With an engine of poor design and cheap make, the cost for repairs and wasted time will soon bring the price far above a trouble-free, long-lasting Lister.

FIRE AT DONCASTER COOL STORE.
A Lister 38 h.p. Diesel, ordered at midnight on Good Friday, the night of the fire, was delivered in 2 hours and was running by 3 p.m., 15 hours after receipt of the order, at the Doncaster Cool Stores.

We can show you great savings on your cost to store fruit. Ask for Information.
Write—Please Mention This Advertisement.

MITCHELL & CO. Pty. Ltd., West F'scray, Melb., Vic. Showroom: 596 Bourke St.

? ? ? ? ? ? ? ? ?

QUERIES QUESTIONS DOUBTS

As to the Best Outlet for Your Fruit can be dispelled by consigning it to

T. J. POUPART LTD.

COVENT GARDEN
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SOUTHAMPTON BRISTOL LIVERPOOL HULL

Account Sales rendered are the best test of Salesmanship. On that test we have emerged from obscurity in 1895 to world-wide repute in 1935

Consignments of Oranges Solicited

Separate Department for Dried and Canned Produce and Pulp.

— AT —

SPITALFIELDS MARKET
London, E.1.

Tasmanian Growers ship through Eric E. Burgess, 88 Collins Street, Hobart.
Victorian Growers ship through Fred J. Andrew, 153 William Street, Melbourne.

Annual Meeting at Batlow

Educational Publicity to Increase Apple Consumption Recommended.

THE Batlow Packing House and Cool Stores Rural Co-operative Society held its annual meeting early in April.

The packing house report stated there was a decrease on the total number of cases packed. Many growers had experienced a considerable reduction in yields, particularly in late Apples. A total of 90,310 cases was packed last season, against 98,737 in the previous season. The quality of fruit was very good, realising 9/1 per case f.o.r. Batlow. That figure was chiefly due to the quantity sold direct to buyers, which kept a considerable quantity off the metropolitan market.

The accounts disclosed a credit balance of £421/15/1, which, with the balance brought forward (£525/5/8), allowed a rebate of £654/19/11, leaving credit of £270/19/1 to be carried forward. Rebate was 1d. per case on all fruit packed in 1935-1936.

In the

cool store section

126,650 cases were stored during the 1936 season. A total of 6,520 bags of **Potatoes** was stored for periods of one to four months. This section showed a big advance in the turnover, 7,650 more bags being handled than during the previous year. Including certified seed, 21,467 bags were sold at an average price of 10/9 f.o.r. Batlow.

In view of the heavy crops of Apples in the Eastern Australian States this season, a resolution was carried favoring an Australian per case levy to provide funds for general education publicity campaign to increase the consumption of Apples.

Messrs. A. E. Herring, E. M. Herring, C. Smith, N. L. Quarmby, J. Sedgewick, C. Buchele, O. J. Butz, J. A. Bartell were elected as a new board of directors.

FRUIT BUYERS
LEMONS, ORANGES, GRAPEFRUIT, PEARS, PEACHES, APRICOTS, BERRIES, CHERRIES.

BROOKE'S LEMOS LTD.
69-79 WHITEMAN STREET, MELBOURNE SOUTH, S.C.5.
— Telephone, M 3141. —

Fruit Trees
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Quality first and all the time.
Book Now for Delivery June-July.
Orders reserved.

John Brunning and Sons
Somerville Nurseries,
Somerville, Victoria Australia.
Orchards & Nurseries 208 Acres.
Private Cool Stores, 17,500 Case Capacity.
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MARKETING THE 1937 APPLE CROP

Heavy Crops in Eastern States Causing Market Congestion — 1½ Million Extra Bushels of Apples in Sight — Interstate Conference Requests Gazettal of Three Grades Only — Urgent Necessity for Funds for Educational Publicity.

A CONFERENCE convened by the Australian Apple and Pear Export Council was held at Melbourne, on April 13, 1937.

There were present: Messrs. L. S. Taylor and W. H. Calvert, M.L.C. (Tasmania), G. W. Brown, F. Moore, E. J. Tully, F. Pyke, F. Beet and J. W. Aspinall (Victoria), E. Ray, J. W. Blick, L. Jenkins, and P. S. MacDermott (New South Wales), together with the Departmental Officers, C. G. Savage (N.S.W.), J. M. Ward (Victoria), P. H. Thomas (Tasmania), and R. E. Boardman, Secretary.

Mr. Brown, who was elected chairman, stated the Conference had been called to consider the enforcement of uniform interstate grading regulations. It was evident that fruit complying with the lowest grade in any State could be supplied from other States. A vigorous approach had been made to the Government for finance for an educational publicity campaign, so far without result.

The Secretary produced correspondence notifying the attendance of representatives of the V.F.M.A., Orchardists' and Fruit Cool Stores Association and Southern Fruitgrowers' Association (Victoria); from the South Australian, Western Australian and Queensland Associations, notifying that attendance was not deemed necessary under the circumstances; from the Batlow Packing House Co-op., regretting the action of the Fruitgrowers' Federation of N.S.W. in deciding against a levy, and affirming that the Batlow Co-op. approved of a levy.

Mr. Ray explained that the situation in N.S.W. was a difficult one as the Federation was a composite body; whereas some districts which marketed their fruits earlier did not desire a levy there was a feeling in some of the larger Apple producing districts favoring a levy to provide funds for Apple publicity. The Federation held the view that publicity should be on the lines of increasing the consumption of all fruits.

Mr. Taylor referred to the large crops of Apples in the Eastern States and the fact that Tasmanian growers were aware that they could send fruit to Sydney which complied with the lowest grade under New South Wales regulations. On the Sydney market this year there would be twice the quantity of Apples marketed last season.

Mr. Ward: "Is this Conference asking for a reconsideration of the Grading Regulations approved in Sydney in July last?

Mr. Taylor: "That is our desire."

Mr. Calvert said the Tasmanian State Fruit Board desired that only two grades, "Extra Fancy" and "Fancy" be sent to Sydney, but in view of all the circumstances now suggested that only three grades be gazetted this season: "Extra Fancy," "Fancy" and "Good," with an increase in the blemish tolerance in "Good" grade in proportion to the size of the fruit.

The chairman said that quite apart from the recommendations of the July Conference the position was now acute, and if at all possible provision should be made to meet the present situation.

Mr. Savage stated that the regulations as agreed upon at the July Conference were now in force, and growers were packing to those grades. While N.S.W. had the four grades gazetted it would not be legal to prevent other States from sending fruit conforming to those grades. He foresaw great difficulties in altering the grades for this season. Any proposed alterations would have to be first submitted to the Fruitgrowers' Federation of N.S.W. for their approval and provided that was obtained the alteration would have to go to the Parliamentary draughtsman, and then have to go before two meetings of the State Cabinet.

Mr. Tully expressed the view that the "Domestic" grade should remain in the regulations. If growers sent this grade to Sydney and got poor returns they would soon cease sending the grade.

At the request of the chairman, State estimates were submitted as to the Apple crops to be marketed in Australia this season, the consensus of opinion being as follow:—

Victoria:	
1936—2¼ million bushels.	
1937—3 million bushels—	
allow extra	500,000
Tasmania:	
1936—3¾ million bushels.	
1937—4½-5 million bushels—allow extra . ..	750,000
New South Wales—	
1936—977,900.	
1937 forecast 1,400,000—	
allow extra	500,000
	1,750,000

Mr. Moore said that many growers had already incurred storage expenses on Apples intended for sale this season, and it would not be right, during the actual progress of the season and without warning to say that the fruit should not be marketed. The more important matter was to go to the Federal Government as decided at the executive meeting to arrange for funds for educational publicity. Further, the cutting out of nondescript varieties should be done without delay.

Mr. Beet stated that the system of instruction in orchard practice was resulting in larger and cleaner crops. Still greater crops would be harvested in future. His vote would be influenced by the fact that Mr. Savage had pointed out the serious difficulties in the way of altering the grades this season. He believed, however, that "Domestic" grade had sooner or later to be deleted and growers should be told so now.

Mr. Taylor said that in case of necessity to save the markets the Governments should be asked to move a little more quickly. It was desirable to limit the quantities going on to the markets, and this matter had to be viewed not from any State aspect, but from a Commonwealth viewpoint.

Mr. Moore pointed out that fruit was still being sold in considerable quantities, well below the present lowest grades gazetted.

Mr. Calvert moved—

"That blemish allowance in good grade be ¼ in. on Apples up to 2¾ in. and ½ in. on 3 in. and over, and that hail mark allowance in good grade be increased in the same proportion — that is ½ in. up to 2¾ in. and 1 in. for 3 in. and over."

Mr. Taylor seconded.

After full discussion the resolution was carried—Tasmania and N.S.W. in favor, Victoria against.

It was further decided to send this resolution to the State Governments of N.S.W. and Victoria at once.

Mr. Ray said it was important that grading regulations should be reviewed each season. The resolution as carried re 1937 grades should not be binding for seasons to come.

Mr. Moore's resolution, which had been read earlier to the meeting was then submitted as follows:—

"That this Conference, after reviewing the estimated quantities of Apples and Pears that will be placed on the markets of the Commonwealth, is of the opinion that unless steps are taken to improve the demand and distribution, it is inevitable that the markets must collapse and thereby involve enormous losses to the fruitgrowers of the several States."

In view of the above—"That all practical means be taken to provide funds for publicity purposes — including a deputation to wait upon the Commonwealth Government and request that the Government make available the sum of £7,500 for such purposes."

The motion was carried unanimously.

Evening.

There were present: Messrs. Ray, Calvert, Moore, Pyke, Beet, Blick, Ward, Savage, Thomas and Boardman (Secretary).

Phone: Epping 96. After hours: Epping 58.

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FRUIT TREES

We have large quantities in all leading varieties.
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KUNDE SECATEURS, BUDDING AND GRAFTING KNIVES AVAILABLE.

CATALOGUE FREE on Application.

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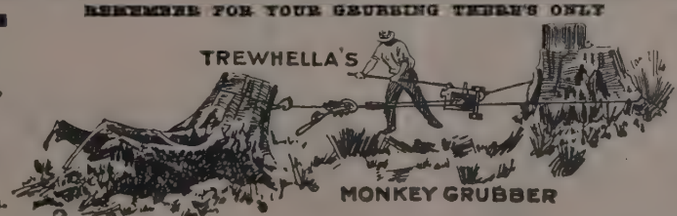
ARE YOU GRUBBING?

Previous experience had convinced me that to be really efficient a grubbing machine should have ample power and ropes that will meet the heavy demands required of them. I found that shovel and axe work is very costly either by itself or in conjunction with a machine. The machine that offered these features, with a host of others, was THE "MONKEY" GRUBBER.

It gave me the power of 260 pairs of hands in a simple and compact form; the lever is short, so that I am able to stand firm-footed and get the full stroke. There are two speeds in the machine, as well as an automatic release that allows me to let off a strain, or as the machine will work in any position, it comes in for all jobs that would require a chain block. It is taken to the job on a pair of wheels like a barn truck, and is rigged for work in a few minutes. The ropes are in lengths that I find easy to handle, and each one is fitted with hook and loop couplings, so simple and absolutely IT for effectiveness. The makers have included a sturdy snatch block with a novel method of securing to the ropes, and also a fine type of firm gripping rope shortener. The latter makes it very easy to accommodate the lengths of rope to the tree or stump being pulled, and is quickly released from the rope. The combination of so many time and labor saving features makes the "Monkey" Grubber a superior grubbing outfit.

REMEMBER FOR YOUR GRUBBING THERE'S ONLY

TREWHELLA'S



MONKEY GRUBBER

H. H. HINDS, 225 Clarence Street, Sydney.

A. G. WEBSTER & SONS, Hobart & Launceston.

A. ROBINSON, 821 Ann St., Brisbane

Leading Stores and Merchants, South and West Australia.

TREWHELLA BROS. Pty. Ltd. Trentham, Vic.

Mr. Moore was elected chairman.

Mr. Blick moved—

"That this Conference appreciating the steps taken by the Australian Apple and Pear Export Council to create an Australian Market Committee requests the Council to arrange for a meeting either mid-December or January next to make whatever arrangements are considered necessary with respect to marketing the 1938 crop of Apples in home markets."

Mr. Calvert seconded—Carried.

The Secretary produced an urgent telegram which had come from the Batlow Packing House and Cool Stores Co-op. as follows—"Our annual meeting last night strongly supported advertising levy and trusts same will be proceeded with."

Mr. Thomas gave details of Apple advertising programmes in U.S.A., emphasising the value of a National Mark or brand. This Mark would be the property of the Association handling the propaganda. In reply to Mr. Pyke, Mr. Thomas said the advertised fruit would be identified by being in a suitable wrapper.

Mr. Beet gave particulars of the efforts of the Victoria Mark Organisation in this connection, the early efforts being marred by unsuitable seasons.

It was then decided to discuss grading regulations in the light of the discussions and decision at the afternoon Conference.

Mr. Ray said that by strictly enforcing the present regulations a large quantity of inferior fruit could be kept off the markets. The "Domestic" grade provided for quite good fruit.

A letter from Mr. MacDermott, Secretary of the N.S.W. Chamber of Fruit and Vegetable Industries was read. It was pointed out that there were bountiful crops of Apples in Tasmania, Victoria and New South Wales, the fruit being more free of blemishes than usual, thus increasing the quantity for marketing in the higher grades. A publicity campaign was advocated because the consumption of Apples in Australia was low in comparison with other parts of the world, economic conditions had improved; Apples were in public favor and quickly responded to sales publicity, especially as they could be consumed, cooked or fresh. One pound of Apples per head of population in New South Wales alone represented 65,000 cases. The benefit of radio publicity had already been proved in increasing the consumption of Oranges in New South Wales. The services of the Chamber were at the service of the Publicity Committee.

The chairman referred to the efforts of the Chamber in the direction of securing funds from the New South Wales Government for fruit publicity. If necessary approaches could be made to other State Governments.

It was decided to record a vote of thanks to the chairman, also to Mr. Brown, who had presided at the afternoon session.

The meeting then closed.

Deputation to Commerce Minister.

Following the Interstate Conference on April 13, a deputation waited on Senator Brennan, Acting Assistant Minister for Commerce the next day. Speakers stressed the necessity for the immediate launching of an educational publicity campaign.

A sympathetic reply was given which stated the matter would be referred to Mr. Thorby and the Cabinet.

CATALOGUES RECEIVED.

C. Langbecker, Bundaberg, Queensland: Catalogue of fruit trees, Grape vines, small fruits, ornamentals, roses, etc.

L. P. Rosen & Son, Carlingford, N.S.W.: Catalogue of fruit trees, etc., including Apples, Apricots, Cherries, Nectarines, Peaches, Pears, Plums, Persimmons, Figs, Loquats, Quinces, Olives, Bananas, Feijoas, Pineapples, Grape vines, berries, nuts, etc.

C. A. Nobelius & Sons Pty. Ltd., Emerald, Victoria: Fruit trees, elms, planes, oaks, poplars and other deciduous, ornamental trees, shrubs and conifers, are listed in the 1937-38 catalogue of Messrs. C. A. Nobelius & Sons Pty. Ltd. Excellent varieties are listed of Apples, Apricots, Cherries, Nectarines, Peaches, Pears, Plums, Quinces, etc.

THIS CROP WAS SAVED BY

PESTEND SUPERFINE

(TOBACCO DUST)

"Look fine, don't they?" said Mr. Short, waving a hand over 100,000 big, healthy Cabbages.

"Yet green, grey, and flying aphis nearly had the lot. Pestend Superfine, used in the spray duster, quickly destroyed them, however, and I expect a very successful crop." . . .

"Yes! You can repeat this conversation, and add, too, that Pestend spreads and adheres better, acts quicker, lasts longer, and costs less than ordinary spraying powders."

Follow the lead of expert gardeners and growers, who have proved that Pestend Superfine (especially when mixed with lime) is a sure protection against crop-destroying insects. Pestend Superfine Tobacco Dust is non-poisonous to plants, inexpensive, and easy to use. Try it out yourself!

Obtainable in 4 lb., 28 lb., and 1 cwt. bags at all produce stores, or direct from W. D. & H. O. Wills (Aust.) Ltd.

Cement on the Orchard

Channels, Fences, Houses.

WITH the development of irrigation in orchards, many farmers are still trying to irrigate their blocks through open ditches. Those who wish to get the best results, however, have channelled their holdings with cement-lined pipes or open concrete water carriers, and have increased the efficiency of the irrigation process.

Open dirt drains and ditches are wasteful and the loss of water through seepage and evaporation offsets the economy which such methods are thought to carry. This is particularly true in very dry areas. Mr. G. W. Mawman, whose advertisement appears in this issue supplies the following information regarding a channel-making machines which he claims should be used on all orchards.

The "Homebuilder" channelling machine has been designed to meet the requirements of the orchardist, poultry and dairy farmers and builders generally, the machines are light and portable and can easily be carried long distances by hand, this is a special advantage in the country, where work has to be done in many different places.

The machines can be supplied for producing in standard 2 ft. lengths, channels with either 3 in., 4 in., 6 in. or 9 in. width gutters, and with either plain or dove-tailed ends.

Orchardists and farmers have found that the "Homebuilder" channelling machine has solved their irrigation problems, and when not used in this way the lengths of channelling form the ideal medium for both surface and underground drainage systems.

The materials used to produce channels with the "Homebuilder" machine are sand, gravel or screenings, and cement in proportions of three parts sand, two parts gravel, and one part cement, where gravel or screenings are not available a mixture of four or five to one sand and cement is to be recommended.

The channels can be reinforced if required, and each 2 ft. length of channelling is made at a cost of only threepence for cement.

The machine, besides making 2 ft. lengths of channelling, is quickly and simply adapted to make half and short pieces and right angle or elbow pieces.

Fence Posts, Too!

The use of concrete fence posts is another contribution to the farming industry in that they are fireproof, indestructible, and can be easily made by any handy man. They will not decay, are not subject to white ants and they improve both the appearance and the value of the property.

They can be made from a mixture of gravel, rubble, sand and cement. The "Lightning" fence post machine turns out a reinforced post 6 ft. x 6 in. with holes for wire or slots for barbed wire. It can also be obtained in special sizes.

For Houses and Sheds.

Cement block making is simplified by the use of the "Lightning Home Builder," also a product of Mr. Mawman, Black Rock. With this compact little machine anyone can make cement blocks for houses, sheds, garages, fruit packing sheds or any permanent, weather-proof buildings. It is claimed to be much cheaper than timber or brick and is fireproof and ant-proof, also the machine is obtainable at very cheap prices for several different sizes.

Readers are invited to communicate direct with Mr. Geo. W. Mawman, Cheltenham-road, Black Rock, or telephone XW 1751 for further information and advice.

THE MARKET GROWER

OFFICIAL ORGAN OF THE MARKET GARDENERS AND FRUITGROWERS' SOCIETY OF VICTORIA.
ALSO OFFICIAL ORGAN OF THE KOONDROOK & BARHAM TOMATO GROWERS' ASSOCIATION.

Peas on the Farm

Varieties and Cultivation

HOW PEA GROWING may be made profitable on the farm was explained by Mr. W. F. urst, of Lavra, at the 1936 Agri-ultural Bureau Congress, according the S.A. Journal of Agriculture. e said that Peas definitely improve e soil, as they make it mellow and tronger by adding nitrogen. Fur-ier, on those fields that have carried crop of Peas the rain penetrated ore easily into the sub-soil.

Varieties.

With Peas, the same as all other rops, the right variety for seed is ssential. Experience leads him to avor the Early White Brunswick for he severe northern conditions. It is ery hardy, quick maturing, and does ot grow too much bulk. It sets well nd is a fairly heavy yielder, giving plump seed, with good feeding quali-ies.

The Early Dun, ripens two weeks ater, grows a lot of bulk but no more rain. The heavy bulk is only a indrance when harvesting with pre-ent-day machinery.

Cultivation and Seeding.

In a district with a fair rainfall, 6 ins. or over, the White Brunswick grows quite well on stubble land. The stubble should be burnt or cleared off; hen after the first Autumn rain, cul-ivated; and, if necessary, harrowed, to give weeds a good start; cleared well of all stones, etc., and sown at the end of June with about 60 to 90 lbs. of seed and a liberal dressing of manure.

If the Peas are sown too early, they are more likely to be caught by frost. If they are sown too late, they are subject to severe hot winds or the ravages of grubs. Frost, hot winds and grubs take the biggest toll on the Pea crop.

At seeding, be careful to kill all weeds. After seeding, roll the soil down well; this will save a lot of trouble, time and grain at harvesting. If a soil is well rolled, the Peas may be cut with the binder just before they are ripe, especially if 10 or 12 lbs. of oats per acre have been sown with the Peas. This can be thrashed later, the straw making an excellent stand-by for idle stock in Winter.

All stock thrive on Peas. Sheep, especially, do well on the stubble with a liberal supply of water. They fatten quicker than on any other feed; giving a good, solid, juicy mutton. The sheep pick up practically every grain, and most of the straw.

A fair Pea crop will fatten at least 5 to 10 sheep to the acre. It a fair-sized paddock, say 50 acres, it is advisable to fence off 5 or 10 acres first to put the sheep on, and when they have cleared that, add another 5 to 10 acres to this. In this way they are continually getting fresh feed and will top up far better.

Farmers cannot expect the soil to keep in the best producing condition with a continual wheat, fallow, wheat, rotation, and there is nothing better than a change with Peas. To keep the soils fertile, it is a good plan to adopt a rotation of wheat (or oats), Peas, bare-fallow, wheat, Peas, bare-fallow.

This practice will give two crops in three years, and will enrich the soil. It is a far better policy to sow smaller areas and have a good crop, than a big area with a poor return.

SOWING MAIZE FOR EVEN CROPS.

Drill the Most Satisfactory Machine.

A maize drill is the most satisfactory machine for sowing seed and fertiliser, but to ensure a regular drop of grains particular attention should be given to the plates. Size and uniformity of the grains must be considered in regard to regularity in the work of the plates, says a writer in "Farmer and Settler," N.S.W.

Width of rows and thickness of sowing depends on the soil and climate, the variety, and whether the crop is for grain or for green fodder Rows vary from 3 ft. to 4 ft. 6 in. apart, and grains are dropped singly every 12 inches, or at the rate of two to four grains in hills 2 ft. to 3 ft. 6 in apart. Under most conditions furrow planting is preferable to surface planting. The average yields obtained in experiments at Hawkesbury Agricultural College on alluvial soils over a period of eight years show an increase of 8 bush. 20 lb. in favor of furrow planting.

The depth to plant the grain depends on the soil moisture, the time of sowing, and the kind of soil. For example, in early Spring, particularly in clay loam soils, seed must not be sown deeply, as it may rot in the cold soil. In the late Spring and Summer, when moisture is not present to such a degree, deeper planting is necessary. It is advisable only to sow when soil moisture conditions are right, and to sow at a safe, uniform depth to ensure a thorough germination and a quick, vigorous growth of the young seedlings, so that they can rapidly outgrow young weeds. The depth of planting does not affect the depth of rooting, as thought by many farmers.

When germination has been faulty as a result of rain setting the ground just after sowing, faulty seed, or other cause, it is better to resow, if length of season permits, rather than replant the missing hills or grains. On small areas, if there is any doubt that germination will be satisfactory, the seeding should be heavy, and the surplus and weakest plants thinned out when 6 in. to 1 ft. in height.

MILLION POUNDS IN PEAS.

Woman Manages Business.

Growing Peas for every purpose and controlling a business representing £1,000,000 turnover in a year, is the responsibility of Mrs. Ella H. Gasking, Chairman of Batchelor's Peas, Ltd., in England. Developed from a humble beginning, the company has extended until it employs a large staff. The business includes a new canning factory which will be the largest of its kind in England, embracing many modern features and including playing fields for its employees.

POTATO CROP HIGHER.

200,000 Tons Expected.

ACCORDING to an estimate arrived at by the Victorian Department of Agriculture, there are 46,000 acres of Potatoes sown in the State, an increase of 2,000 over last year.

Climatic conditions during March were less favorable to the growth of the crop, the dry spell in most of the late districts resulting in a reduction in the probable yield, particularly in the case of the Snowflakes. Except at Illowa, Portland, Beech Forest and Korumburra, however, correspondents report crop condition at 100 per cent. of normal or better. The main crop in the Ballarat district is reported at 100 per cent. of normal, compared with 115 per cent. last month, while at Daylesford the estimate remains unchanged at 110 per cent. of normal. Estimates from other districts show a slight reduction, and indications are that the average yield for the State will be slightly less than last month's estimate of between five and six tons per acre, although the total crop for the State is expected to be at least 200,000 tons.

Crops generally throughout the State are clean, the dry weather having checked the development of blight, although it has been favorable to the spread of grub. The quality of the tubers generally is above average. During the month prices ranged from £2/15/- to £4 per ton. Digging of the main crop has become fairly general, and supplies coming to hand are ample for requirements.

POTATOES AND DAIRYING.

Tasmanian Farmer's Success.

Potato growing combined with dairying has been proved by Mr. S. B. Charleston, of Wilmot, to give good results on a farm of 280 acres.

Mr. Charleston milks a herd of 27, and last season he topped the herd test in his district. His herd is Jersey cross, but he is grading up with the aid of a Rannoch-bred bull. Severe culling on the results of tests enables him to secure a high average. Meadow hay and Algerian oats chaffed for hay for the Winter months are supplemented by White Turnips.

Pigs are a sideline on the farm. An average of almost a baconer a week is fattened throughout the year, as well as porkers.

Though the price for butter-fat is not highly payable, Mr. Charleston by his methods finds that there is still money in cows.

ENGLAND BUYS U.S.A. ONIONS.

First Time Since World War.

For the first time since before the World War, U.S.A. shippers have sent Onions to British markets. Just before Christmas 40 tons of New York State yellow Onions were shipped on Cunard-White Star liners across the Atlantic. Larger shipments are to follow, and it is suggested that this new trade is developing following the establishment of the Food Control Department, on what corresponds to war-time organisation. This may, however, only be a coincidence.

"Plane" Brand Dusts

"Beauty" (Knapsack) Dusters
"Superior" (Rotary) Dusters

ARE MANUFACTURED BY

N. N. McLEAN Pty. Ltd.
395 Queen Street
MELBOURNE

Hitherto most of Britain's imported supplies of Onions have come from Spain, but the civil war in that country has practically shut off such supplies. U.S.A. had a favorable Onion production during the past season and this unexpected outlet was doubly welcome.

PEAS AND BEANS AT ORBOST.

£100 per Acre.

At least one grower realised £100 per ton nett for his early crop of Peas and Beans at Orbost. This price was affected by the shortage of supplies in N.S.W.

Two growers who have been successful in growing the Burnley strain of Canadian Wonder Beans that is free from disease, have harvested for seed a crop of 60 acres. Their crops are reported to be the best in the district and ensures that resistant seed will be available this year. It is a matter of great satisfaction to Messrs. W. and D. Russell, as well as to the other growers in the district, that their success in developing such a quantity of immune seed is assured, and it practically signs a comeback to the Orbost area as the chief Bean-seed production area in Australia.

The present crop is quoted as being the best for 15 years and follows studied efforts on the part of Messrs. Russell, in co-operation with the Victorian Department of Agriculture, to develop a blight-resistant strain of Canadian Wonder Beans.

GLASSHOUSE TOMATOES.

Selection of Site.

If possible, states the "N.S.W. Agricultural Notes," a fairly level area should be selected for the erection of a Tomato glasshouse, preferably in a position not exposed to southerly winds. The house should be well clear of any tree growth likely to cast shadows over it. For preference, the houses should run north and south.

Care should be taken to select a clean area—that is, one that has not previously grown Tomatoes. This is most important in regard to certain pests and diseases, such as fusarium wilt, which is probably the worst trouble experienced in local houses. A clean start is always desirable.

Heavy clay soils are unsatisfactory; they are too cold, and compact badly. A loam is to be preferred. Such soils are warmer and root growth is more active. These soils are easy to cultivate, and are usually well drained. Sandy soil is suitable for glasshouse work, but must be heavily fed with organic manure and artificial fertilisers.

Motor Cars, Trucks, Tractors

Australian Motor Bodies

Science and Engineering now Applied

"IT can truthfully be said that the Australian motor body manufacturing industry is ahead of many internationally recognised manufacturing countries who produce a complete car but are backward, compared with Australia, in their ability to manufacture the all-steel body as is now available in this country," said Mr. L. J. Hartnett, managing director, General Motors-Holden's Ltd., at the 20th Convention of the Master Motor Body and Coach Builders' Association of Australia.

"When it is realised that in one body manufacturing plant in Australia there are 42 distinct models being produced, practically all of the all-steel variety, which were designed and engineered here and are now in production, it warrants considerable praise being given to the Australians engaged in the industry.

"The engineering problems which had to be overcome with the new all-steel bodies are not probably appreciated, and the work involved under such headings as the measurement of sound and the amount of torsional resistance or support which has to be built into the body so that when coupled with the chassis the final result is effective and gives pleasant riding, are but a couple of the hurdles which had to be cleared. Guesswork had to be eliminated because with the all-steel body an extensive tooling investment has been made. This year, General Motors-Holden's Ltd. have invested over £200,000 in dies and tools to cope with the 1937 all-steel models.

"The progress made by the motor manufacturing industry in Australia is far from being understood and appreciated by the car user, and for that matter the motor trade. Scientific engineering and research has had to be applied within the industry. We are out of the stage of 'Chinese copying' and are now developing motor bodies particularly applicable to the needs and usages of the people, and can go into the manufacture in large volume with a thorough assurance that it is sound and well proven. At the moment there are approximately 15,000 employees in the industry, and the capital investment in plant and machinery amounts to several millions sterling.

"Opportunity exists for the Australian motor body manufacturer to render a national service by developing an export business, and this has already been done to a marked degree by one or two concerns. The potential markets are fortunately quite nearby, being particularly, India, Far East and Java, and there are even some Australian motor bodies in Egypt.

"The specific reason why great possibilities exist in the export of Australian bodies is tht fact that the touring and roadster models and some of the new designs developed in Australia are not available from the factories manufacturing the chassis."

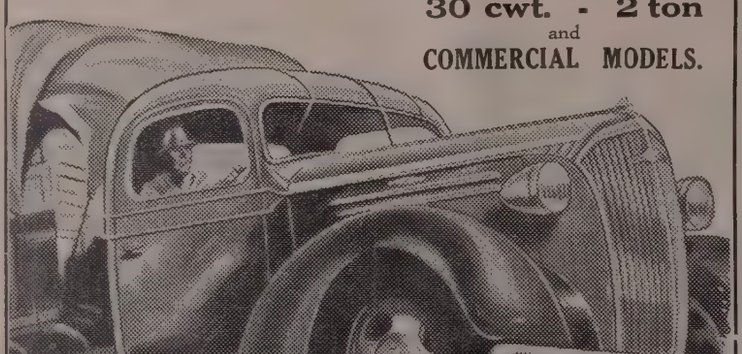
"Too often," concluded Mr. Hartnett, "I notice that emphasis is placed upon the accomplishments of overseas countries, and I feel that not sufficient credit goes to what is being done in Australia."

CHEVROLET—The World's Sales Leader, Offers . . .

BIGGEST TRUCK VALUE

More Power Per Gallon, Less Cost Per Load
With The New 1937 Chevrolet

30 cwt. - 2 ton
and
COMMERCIAL MODELS.



The 1937 Chevrolet Trucks are entirely new vehicles, redesigned for greater efficiency at lower cost. They're the biggest truck value ever offered, because—The New Chevrolet Six-Cylinder Overhead valve Long-life Engine gives more pulling power than ever, but with an actual saving of fuel and oil consumption costs. The New Chevrolet power unit is now more forward mounted, adding to available load space and increasing durability by eliminating body overhang and lessening chassis strains.

NEW BIG VALUE FEATURES include: Improved Perfected Hydraulic Brakes—New Full-floating Rear Axle—Four-bearing Crank and Camshafts—New Improved Engine Supports—New Stabilised Front End—New Steering with Increased Ratio—New Stronger, Straighter Frame—New U-Type and Box Section Cross Members with Alligator Jaw Fastenings — New Spring Hangers, Springs and Spring Helpers.

Massive in looks, Chevrolet Trucks set new high standards of appearance with their steelstream styling, All-Steel Sedan-Type Safety Cabs, with V-Type Safety Glass Windscreen.

CHASSIS PRICES :

Commercial Truck from - £230
30 cwt. - 2 ton Truck (131 w.b.) from - - £277
30 cwt. - 2 ton Truck (157 w.b.) from - - £297

All Prices Plus Sales Tax.

Six Cylinder CHEVROLET Long Life

Sold and Serviced by Chevrolet Dealers throughout Australia.

Metropolitan Distributors:

PRESTON MOTORS PTY. LTD.

114 Franklin Street, Melbourne

24 HOURS TRUCK SERVICE.

702 MAKES OF CARS DISCARDED.

Since the beginning of the motor-car industry in U.S.A., 729 different makes of cars have been produced These include many practically hand-made cars in the early days and others which were made in small numbers and their makers found that the business was too huge for them to handle, or again, the makes put out were unsatisfactory and people stopped buying them. Of that number, only 27 different makes have survived the intense competition. Ford and Chevrolet have proved the most popular cars for the masses, but there are still several high-priced cars which cater for those owners who want "something better than the other fellow," either in appearance, size or tradition. It can be stated, however, that the comparatively cheap American light car has put the world on wheels.

TYRE SLEEVES.

Sleeves for worn tyres should only be used as a temporary measure. If a sleeve is left in a tyre for any length of time, it will chafe the fabric—and sometimes the tube. Even when carefully placed in the tyre, there are rough edges or creases which will wear into the adjacent tyre or tube, and it is false economy to make a makeshift into a permanent fitting. Another thing about running long on a sleeve is that it makes an uneven movement in the tyre which not only wears the tyre more, but can effect a wheel wobble with the possibility of an accident.

MIND THE CURVE.

WITH the retirement of cable trams from Melbourne streets, the old warning "mind the curve" will soon be forgotten. This advice, however, still applies to motor drivers or to those careless or showy drivers who still insist upon taking chances. It is remarkable how the feeling of power which a good car gives to some drivers makes them want to speed unnecessarily fast and take risks that, ordinarily, they would not take.

To the average driver, terms like "cornering force," "slip angles," "radical loads," and such are just so much Greek. But it is only because the tyre engineers have agonised over those matters that we can hit a bend in the road at 45. Surely, weight distribution plays its part, but the thing which holds us on the road, in the face of a vicious side-thrust from centrifugal force, is nothing more nor less than the tyres, supported by power from the driving wheels.

This centrifugal force increases as the square of the speed. Thus we see that on a curve of 500 ft. radius, a 3,000 lb. car will get a side sway of 156 lbs. at 20 miles an hour. Jump that speed to 30 and the push becomes 360 lb.; step her up to 60, and you have approximately 1,400 lb. trying to nudge you into the ditch.

The reason why so many bad accidents happen on turns is simple enough. When the driver hits the curve "too fast for conditions," friction is overpowered by centrifugal force, and he feels a side-sway come on. Instinctively he steps on the brake—the worst possible move—and over he goes.

Naturally, what he should do is slow down before reaching the curve.

BLOW-OUTS.

The real difficulties in a blow-out begin when the startled driver jams down the brake pedal, with a tyre suddenly gone flat and the whole balance of the car out of plumb, says "Modern Motoring." Probably the best advice for the amateur is to keep a firm grip on the wheel, take your foot off the gas, and let her coast to a standstill.

But for the average motorist, driving along with a three-fingered grip on the wheel and a wandering mind, the forward blow-out is serious, because it will pull the wheel out of his dainty grasp. Once that happens at any real speed, Samson himself could not turn that wheel back against a flat. Therefore, the tentative answer to the old argument is, put the old tyre on the back if you have to—but the only logical answer is throw it away and get a new one.

The fact that a rear blow-out is often more serious than a front one is evidenced by the fact that many tyre test drivers prefer to run the older tyres on the front wheels rather than on the rear. This is not recommended for non-professionals.

LANGUAGE.

Bride (to judge): "I can't stand it any longer. My husband actually swore at me. And I was learning to drive just to please him, too."

Judge: "What did he say?"

Bride: "He sat there in the ditch and said: Holy cats, woman! Didn't you see that truck?"

Canning News and Notes

A NEW CANNING PEACH.

The "Sullivan Cling."

CANNERS and Peach growers in California have long felt that a new and superior Peach ould be sought. The College of griculture has co-operated, and be-ve that the answer to the problem .s been found in a Peach strain olved by C. E. Sullivan, of Sutter unty, after whom the new Peach is med.

Up to now the Phillips Peach, a te season variety, has been most rgely planted, but it has been found sceptible to gumming, with great ss to growers. As the Phillips antings are running out, it is ex-cted that growers will switch over the Sullivan, which ripens about e same time as the Phillips, and rows more heavily.

The fruit averages from 3 to 3½ ches, and the flesh is bright yellow nd firm, with excellent texture and mmetry. It is free from gum, and eing of the gland leaf variety, it is xpected to prove immune from dis-ases which attack the glandless leaf pes.

It was first noticed by Mr. Sullivan 1930, amongst a row of Phillips, om one of which one branch issued earing vigorous growth, with ougher bark and large dark bluish reen leaves. The fruit came on ich yellow color, with a bright red lush, and was an almost perfect phere. When cut, the fruit proved be a perfect clingstone, with yellow, rm flesh, and the pit had no trace f red.

Since its discovery, this new ariety has been under constant bservation by canners, who agree hat it is a most desirable type. The rees grow vigorously, are prolific earers, and the fruit is uniformly arge, whilst the flavor and texture re excellent, and it is eminently suit-ble for canning.

ALL RECORDS BROKEN.

1937 U.S.A. CANNERS' CONVENTION.

More hotel reservations, more committee and convention rooms, more delegates and more exhibition space than ever before marked the 1937 American Canning Machinery and Supplies Association's Convention, which was held in the Stevens Hotel, Chicago, from January 24 to 29. More than 75,000 square feet, on several floors of one of Chicago's largest hotels, was required to display more machinery and supplies than had previously been submitted for exhibition purposes.

CANNING FRUIT JUICE IN GERMANY.

Tremendous Increase.

Ten years ago, Germany produced only 500,000 gallons of unfermented fruit and Grape juice; now her production has jumped to 9,500,000 gallons. The rise in consumption has not nearly reached its peak, says the "Fruit Grower" (Eng.), for people in Germany are becoming more and more interested in health movements and youth health societies, supported by medical approval, are realising that fruit juices are aids to general health and supplements a one-sided or deficient diet.

Since 1927, fruit growers have supported this new development, which allows them to dispose of their below-standard fruits, which the fresh markets refuse. The main variety is known as "Apfelsaft," or unfermented Apple juice, whilst previously useless wine Grapes, because of their poor quality, are now transformed into unfermented wine drinks.

Technical difficulties in manufacture have now been overcome, and in 1936, 2,500,000 gallons were processed. The fruit juices are clean, unwatered and contain no chemical preservatives. Manufacturers have given fruit a new outlet in this way, markets have been developed, prices of all kinds of fruits have risen, and a contribution has been made to the health of the nation.

18,000,000 Cases Fruit Juice.

Pineapple Figures Soar.

In 1936, California produced 18,000,000 cases of fruit juices and a study of their varieties shows that although Tomato juice still tops the list, both Grapefruit and Pineapple juices have grown in favor above Orange juice.

Since 1929, Tomato juice consumption in U.S.A. has grown to 9,000,000 cases per year, whilst in the same time canned Orange juice touched only 1,500,000 cases. Between these two figures, Pineapple juice soared into popularity from 700,000 cases in 1933 to over 5,000,000 cases in 1936, whilst Grapefruit juice touched the 2,500,000 mark in 1935, but dropped 20 per cent. last year.

As a comparison it is noted that the 18,000,000 cases represented by the four main fruit juices mentioned more than equals the total canned (solid) fruit pack of California in 1936. The big argument in favor of fruit juice canning is that it absorbs the No. 2 (below grade) fruit that would otherwise be wholly or partly wasted.

CANNING PASSION FRUIT PULP.

20,000 Gallons Output.

THE Passion Fruit industry in Norfolk Island had never been developed until recently, when a Sydney company conceived the idea of pulping the fruit for general culinary and drink uses. The distance from Australian and other markets precluded the growers from marketing their fruit, but by processing the fruit on the Island the Sydney company expects to be able to develop a local and foreign market for this delectable fruit.

A beneficient nature has made the growing of tropical fruits easy on the islands, but the marketing of such has been the only problem. Norfolk Island contains about 8,000 acres of fertile soil, which the descendants of the survivors of the "Mutiny on the Bounty" now plan to make doubly productive.

In its first year of processing, the company produced 6,000 gallons of Passion Fruit pulp, but anticipates that its second season will produce close to 20,000 gallons. Other tropical fruits will be added to the list of varieties, and a new era of prosperity seems to be indicated on Norfolk Island as well as supplying an Australian need.

CANNED FRUIT EXPORTS.

Whereas last year 210,747 cases of canned fruits were exported between January 1 and March 31, during the same period this year the total of 319,327 cases represents an approximate increase of 50 per cent. Up to date, 294,013 cases have gone to Great Britain, 11,486 cases to New Zealand, 5,570 cases to the East, and 1,321 cases to miscellaneous other countries.

ROCKHAMPTON TO HAVE CANNERY.

350 Acres Pineapples to be Grown.

Residents of Rockhampton (Q'land.) and district are interesting themselves in a proposal to establish a Pineapple cannery in the district. The Central Queensland Meat Export Co. is willing to instal a plant as an addition to their present meat canning works if the district will undertake to cultivate 350 acres or more, and to plant Pineapples. This area is considered to be required, and sufficient to allow economic operation of a cannery.

The plant would cost approximately £4,000, but could be provided ready for use when the necessary plantings are mature in about two year's time. It is stated that the whole output of the central districts would be used entirely for canning purposes. It is also reported that growers in the Bowen district are urging the establishment of a cannery in that region

Tasmania

The "T.O.P." has Been Reorganised.

The Tasmanian Orchardists' and Producers' Co-operative Association Ltd. will henceforth be conducted under the above title, finality now having been reached in regard to financial arrangements. The registered capital of the new company is £25,000, and under the scheme of reorganisation, the company enjoys an influential and numerous membership, resulting from the capitalising of the debtor balances.

Mr. T. W. Kimber is to be the managing director for three years. Mr. Kimber has been closely identified with the progress of the company during receivership, and successfully conducted the negotiations leading up to the present reorganisation. The directorate of the company also includes Mr. H. H. Cummins (chairman), Messrs. J. H. Mason, A. L. Bender, W. C. Gowans, R. G. McKenzie, and H. H. Whiter (consultant director, representing Australian Producers' Wholesale Co-op. Federation, Melbourne).

The Articles of Association provide for the payment of rebates and bonuses to customers, irrespective of whether or not they be shareholders. Dividends are limited to 10 per cent. per annum, and the company thereby retains the basic principle of co-operative trading. The company is linked as shareholders with the Australian Producers' Wholesale Federation Pty. Ltd. (London).

A further issue of capital is contemplated in the near future. Against assets of £34,789, bank overdraft (secured by debenture) amounted at last balance to £9,000, showing a surplus of £25,789 over equity in favor of the bank. Management under receivership was successful in maintaining goodwill, evidenced in considerable business development, the turnover during the last financial year reaching approximately £270,000.

SINGAPORE EXHIBITION EXHIBITS.

The Department of Commerce recently despatched a consignment of fruit and vegetables from Sydney to Singapore Exhibition, which opened at the end of April. The fruit was obtained from the irrigation area and the Chamber of Fruit and Vegetable Industries supplied the vegetable exhibit.

Classified Advertisement.

TO LET—Good Apple and Pear Orchard, 20 acres. For further particulars, apply A. Armour, Warragul.

Great Oaks from Little Acorns Grow

It is from just such small beginnings that a Savings Bank Account will grow into a substantial possession. The habit of Thrift is not hard to acquire and once begun, leads to security. No matter how little you can afford to put by weekly, commence at once. You will be agreeably astonished to note how soon the "mickles" become a "muckle." It is a happy and a safe condition, to have "money in the bank," and the opportunity is conveniently at hand. Not only by hundreds of Branches, but through practically all Post Offices and many private agencies, the Commonwealth Savings Bank service is made available in all Australian districts—in your district.

Commonwealth Savings Bank of Australia
(Guaranteed by the Commonwealth Government.)

The Port of HULL
... IS ...
THE FRUIT CENTRE
Serving a Population of Over 13,000,000 in the North and Midlands.

REGULAR SAILINGS TO CONTINENTAL PORTS provide unrivalled MARKETS for re-export of EMPIRE FRUIT.

Specially Constructed REFRIGERATOR VANS carry FRUIT direct from STEAMER to inland destinations by EXPRESS TRAINS.

RAPID HANDLING, QUICK DESPATCH, LOW CHARGES, and THE BEST PRICES. SEND YOUR FRUIT TO HULL.

TEN MODERN DOCKS entirely owned and managed by
THE LONDON AND NORTH EASTERN RAILWAY
Full information and literature supplied on application—
BURNS, PHILP & CO. LTD.,
7 Bridge Street, Sydney. 312 Collins Street, Melbourne; and Branches.

Vegetative Propagation of Tropical and Sub-Tropical Fruits.

Feilden, G. St.Cl. and Garner, R. J., Vegetative propagation of tropical and sub-tropical fruits. Tech. Comm. Imperial Bureau of Fruit Production, East Malling, Kent, England, 7, 1936, pp. 67, bibl. 123, 2s.

This compilation forms the second of a series of articles issued by the Imperial Bureau of Fruit Production on the vegetative propagation of tropical and sub-tropical horticultural crops, the first on citrus having appeared in 1932.

It is based on a thorough examination of existing literature and on the answers to enquiries sent to many workers in the tropics.

It is in two parts. In the first will be found an illustrated and simple account of the different operations of budding, grafting, etc., referred to later. This is very welcome in view of the looseness with which certain propagation terms are used in different parts of the English-speaking world.

An account follows of the methods commonly recommended for use or trial in the asexual propagation of some 100 types of fruit and references are given to the source of the information in such case.

The bibliography concerned precedes a useful index in which both common and scientific names of the plants discussed are included.

Sir Geoffrey Evans, in his introduction, remarks on the completeness of the information and the number of the tropical plants dealt with, and indeed it should prove a useful reference work to the tropical horticulturist.

WOOLLY APHIS CONTROL.

Greenslade, R.M. Horticultural aspects of woolly aphis control, together with a survey of the literature. Tech. Comm. Imperial Bureau of Fruit Production, East Malling, Kent, England, 8, 1936, pp. 88, bibls. 555 (general) and 156 (biologic control), 2/6.

THE VOLUMINOUS LITERATURE published during the last hundred years on woolly aphis or American blight and the divergence of opinion there expressed have long demanded examination and critical analysis.

In November, 1933, a memorandum and questionnaire on the incidence and control of the pest was circulated by the Imperial Bureau of Fruit Production to all the Apple growing countries of the world and co-operation invited.

The literature and the replies to the questionnaire have been thoroughly sifted by the present author, who has now for some years at East Malling been

testing new seedlings

for immunity, investigating control measures in the orchard and studying the causes of immunity or resistance, and is, therefore, in an exceptionally good position for examining the situation. This he does most clearly and concisely for practical horticulturists no less than for fellow investigators in Technical Communication 8.

First the insect and its habits, its spread in the orchard, its methods of feeding and its possible alternative hosts are dealt with. Next the bearing of climatic factors, temperature, humidity, wind and sunlight, on its incidence is considered.

In many parts of the Empire the normal combination of these factors is propitious for a heavy attack, whereas in England an increase in temperature and sun and in Rumania an increased rainfall will induce it.

Control measures are considered in detail:—

(1) Artificial control including spraying, fumigation, tree injection, cultural practice, etc.

(2) Natural control by **Aphelinus mali**, and other parasites. The varying measure of success achieved in different countries is noted.

(3) Control by use of resistant stocks and varieties. A particularly interesting account is given of existing resistant varieties, of the breeding work in progress in England at Merton and East Malling and of the few indications afforded as yet of the possible causes of resistance.

Lastly (4) Control by legislation, e.g., quarantine measures, etc.

The literature from nearly 300 sources is further dealt with in the two annotated bibliographies which follow. The first, general, contains 555 references, while the second contains 156 references to articles on the biologic control of the pest.

Finally, the memorandum and questionnaire noted previously are reproduced in full, together with a list of persons who replied. This list forms, incidentally, a useful index of workers interested in the subject.

Both to investigators and growers this publication should prove of great reference value.

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Export & Commercial News

A Visit to Tokyo Markets

By Willis J. Williams, B.Sc. (Supt. of Markets, Sydney).

Sydney people often speak of their markets as being the largest in the Southern Hemisphere, and it indicates that Sydney must possess a market of large dimensions. It is so. There is in the centre of the city an area of twenty-five acres used for market purposes, where fruit, vegetables, produce, fish and poultry may be obtained in wholesale quantities, but go to Tokyo and spend a couple of days in the markets of a city of over six million people and you realise to a greater and more astonishing extent how large a market may be.

It was my privilege to visit the markets of Tokyo, and I was given every opportunity of seeing the markets and examining the system of marketing, and thereby gained much useful information. I must pay tribute to the kindness and courtesy of the officials, who showed me all that was to be seen and supplied me with an officer who understood our language so well as to describe to me the various market operations in "real Australian."

The City of Tokyo has invested about £1,500,000 capital in the Central Market, but there are no less than six market areas for the sale of various lines of produce, and it is estimated that during the past year food from the markets was consumed by the metropolitan population to a value of £7,500,000 and a total weight of over one million tons.

The art of marketing has long been known in Japan. The day before I visited the markets, the three hundred and thirty-first (331st) year of the opening of the market was celebrated. Sydney Market goes back to the time of Governor Macquarie, who gave permission for the sale of produce in a place set aside for that purpose, which was alongside a small stream near where the lower end of George-street is now.

The Tokyo Markets are well equipped for the business to be transacted. The main market is most modern, it being constructed since the earthquake that wrought such destruction and desolation to the city and its people in 1923.

In each of the markets is a modern cold store with an ice-making plant. In the main Fish Market the cold storage works has no less than 40 rooms, with a total capacity of 120,000 boxes of fish, and can manufacture 100 tons of ice daily.

The vegetable, fruit and produce market buildings are not so extensive as the fish market, but larger than our present markets in Sydney. This may be accounted for by the fact that there are several markets of this type in other parts of the city. I was fortunate in that I was able to see two of these markets, where there was just as much activity as in the main centre.

In a city of the dimensions of Tokyo, it is essential that there should be some decentralisation of marketing, for it was easy to observe that there was just the same difficulty as at present experienced in the Sydney Markets, and which should be largely overcome when the New Growers' Market is erected in the near future —I refer, of course, to the congestion of traffic. The trouble is largely caused by so many retailers wanting to buy all their produce in a very limited space of time.

All the produce is sold by auction. Just as I arrived in the Fruit Market a large number of cases of Mushrooms arrived by aeroplane and were put up for auction. Talk about a wool sale in Sydney—why, the excitement in the auction of early season Mushrooms runs high. The musical voice of the Japanese rang through that great hall, and although competition was strong, there was much good humor, and congratulations were showered on the largest buyer.

I noted that Pears and Apples from the country districts of Japan were packed in dried rice husks, and that it prevented the fruit from bruising —the bugbear of the Australian grower. The standard case of fruit was larger than the Australian bushel and should weigh, I think, about 1½ bushels. The fruit was well graded.

There was a special building for the sale and ripening of Bananas. The Banana sold in Japan mainly comes from the Island of Formosa, an island ceded to Japan by China. In size the Banana is much larger than those we have in Sydney, and in my opinion has a better flavor. The fruit is ripened in much the same way as in Sydney, by the use of Ethylene from ordinary gas, and kept cool in large rooms in which the baskets, each containing 400 fruit, were placed below a block of ice and the water from the ice dripped over the fruit, and in four days it was ready for sale. It seemed a very simple way of ripening and keeping the fruit, and very effective in that the fruit was very regular in color and firmness, Bananas are sold in tens or multiples of tens, but on more than one occasion I saw bunches of fruit sold by weight.

BEST SINCE 1930.

The Californian Fruit Growers' Exchange, in their latest report just received, states that, as far as California is concerned, 1936 citrus season was the best since 1930. The quality of the new Navel crop is particularly outstanding, and the fruit averages smaller in size than a year ago—an advantage in marketing. Eating quality is also quoted as the best for several years, possibly the best yet produced.

FRUIT PRICES IN U.K.

Major H. Dakin, of Sydney, advises under date April 19, having received the following cable advice from Geo. Monro Ltd:—

"Australia Star," "Orion," "Moldavia," good condition market very fair Tasmanian Worcesters 9/- to 11/-, Ribstons 8/6 to 10/6, Cox's 10/- to 15/-, Alfs. 7/- to 8/-, Jons. 10/- to 11/6, Sydney Jons. 10/- to 13/-, Grannies 13/- to 15/-, King Davids 11/- to 12/-.

Liverpool:—Victorian, ex "Australia Star," Apples, Jon., 10/9 to 12/6; Coxes, 9/9 to 10/9; Cleo., 12/6. Pears, P.T., 10/9 to 11/9; Howells, 7/- to 9/9. Westralian Apples, ex "Idomeneus," Jon., 12/-; Dunns, 9/6 to 10/-; Queensland Dunns, 8/- to 10/-.

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FRUIT PRICES IN U.K.

London (25/4/37): Apples, ex "Maloja" and "Brisbane Star," Vic. Jon, 11/9 to 13/3; Granny, 12/3 to 15/-; Londons, 7/6 to 10/3; Tas. Jon., 10/- to 12/6; Coxes, 10/3 to 13/3; Cleo., 10/9 to 12/9; Worcesters, 11/- to 13/-; Alf., 6/- to 7/9; N.S.W. Jon., 11/9 to 13/-; Londons, 7/6 to 9/9; S. Aust. Jon., 12/- to 12/6; Cleo., 12/6 to 13/6; Londons, 8/9 to 10/9; Westralian Jon., 13/- to 14/.

N.Z. ex "Rotorua" and "Port Nicholson," Coxes, 11/3 to 14/-; Dunns, 10/- to 10/6.

Pears, ex "Brisbane Star," S. Aust. Boscs, 10/- to 11/3; Packhams, 8/9 to 14/-; Jos., 11/-; Westralian Packhams, 12/- to 12/9; Jos., 12/- to 12/9. Plums, N.S.W. ex "Maloja," Grand Dukes, 3/10 to 4/10.

Apple Storage Developments in the United Kingdom

(By W. B. Gornall, Canadian Fruit Trade Commissioner.)

London, January 23, 1937.—During recent years there has been a marked development in cool gas storage plants for domestic Apples in the United Kingdom, and the last eighteen months has witnessed a considerable acceleration in this trend. The storage plants are decentralised and consequently the individual grower and the trade generally have lacked definite information as to total capacity available and the actual volume of fruit in storage. With a view to supplying this need, the National Farmers' Union recently collected data showing the stocks of English Apples in cold and gas storage on January 1, 1937. These are given in the following table:—

Type.	Bushels.	Principal variety
Culinary	1,300,000	93% Bramley
Dessert	70,000	80% Cox Orange

In addition, it is estimated that some 2,000,000 bushels, mostly of culinary varieties, are being held in ordinary farm storage.

Effect on Market for Apples.

The development of gas storag facilities has had repercussions bot in the market for domestic and im ported Apples. Up to the prese those growers who have utilized ga storage have secured enhanced finan cial returns for their fruit, which hav made their investment most profitabl With the rapid increase in storag plants, however, the returns hav shown a tendency to decline. Hithe to the English crop has been marke ed in a comparatively short seaso extending only from August to D cember. **As a result of the use gas storage, the season has bee lengthened considerably until now th English grower is speaking in term of one extending on into April.**

English Apple Prices.

Reports on the market for Engli Apples indicate slow movement a relatively low prices. About t middle of January Bramleys we quoted at from 2/- to 5/- per bush box and Cox Orange at from 5/- 9/- per half-box. A considera volume of culinary Apples, packed returnable bushel baskets, were ing offered at prices ranging from to 2/6. The quality of this bask fruit has been about equal to t Canadian Domestic grade, and in ter of standard barrels is equivalent from 3/- to 7/6. The boxed Braml have been equal to Canadian No grade and the prices amount to fr 6/- to 15/- per standard barrel. barrel contains approx. three bush —Ed. "F.W."] The lower grade Cox Orange in returnable half-bus baskets is selling around 2/3, equivalent of 6/9 per standard h barrel.

Effect on Canadian Barrelled Dom tic Apples.

The situation which thus develo explains to a large extent the prices which have been obtained Canadian barrel Apples of Dome grade. In addition, it must be rem bered that the English product be marketed at a cost of 10 per c commission, plus average fre charges of 1/- for the equivalen the standard barrel (three bush The cost of marketing the Canad barrel Apples, however, includes commission of 3 per cent., a hand charge of 1/6 to 2/-, and fre charges of 3/- or more.

The better prices secured for Ca dian dessert Apples may be accou for by the relatively small quan of the English product held in s age and the light movement from United States. The satisfactory dition is likely to continue throug the present season, but no impr ment in the culinary Apple is an pated at present.

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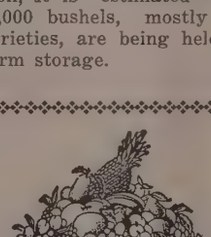

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Fruit Prices in the Sydney Market

Survey of Operations for the Period March 26 to April 24, 1937.

The Debacle of Easter Holidays Followed by Brisk Buying :: Summer Fruits Practically Finished :: Pome Fruits Increasing :: Banana Supplies Lighter :: Apple Export Continues :: New Season Citrus Appears.

(By L. T. Pearce, Market Representative Fruit Growers' Federation of N.S.W.)

WHEN LAST WE REPORTED, the Sydney market was very depressed, due to stocks of Summer fruits being sacrificed prior to the Easter holidays.. After Easter, due to fine weather over the holidays, retailers purchased briskly, and for several days values were higher than they had been prior to Easter.

The change in the season has been evidenced in the appearance of new season Grapefruit, Navel Oranges, White Siletta Oranges and Imperial Mandarins. But, although the season is advanced, the 1936 late Valencias appear to be as plentiful as ever. Values of Valencias will quickly be affected as the new season fruit shows maturity.

Apples:

Weekly arrivals from Tasmania increased from 17,000 to 44,000 cases, the average being 32,370 per week, which quantity included a few Pears.

Quantities also came from Victoria and N.S.W. deliveries were particularly heavy, the Jonathan crop at the time of writing being mostly marketed. Values maintained fairly well for popular varieties, but, other than Jons., Fanny and Del. in eating varieties, and Londons, Cleo. and Granny Smith when green in cooking varieties, only low values were received.

Buyers were definite in their objection to Londons and Cleo. showing color and sizes smaller than 2½ in. were cleared at 2/- and 3/- per bush.

Large sizes in N.S.W. Jons. are now showing a tendency to over-maturity, and the large Tas. fruit is obtaining preference. Geeveston Fanny have appeared, and will in future be quoted in place of Fanny or Lady-in-Snow. Romes from N.S.W. have been appearing for some time, but, until recently, could not compete with the Jon. The same applies to Scarlet from Tasmania, most of which have been unattractively hard and green. The following quotations apply to Fancy and Good grades. With those varieties, such as Dels., Granny and Jon, and exportable Pears, higher prices are obtained for extra fancy grade and shipping lines. Prices: ranged from 3/- to 10/-.

Export of Apples

to U.K. and other places continued, the U.K. receiving 51,760 cases up to April 21, at which time the "Imperial Star" was loading approximately 11,000 cases; this quantity was far below the space booked. In addition, regular consignments have gone to Singapore, China, Mediterranean, and the Islands, also Canada.

Pears:

Williams Pears were still popular at the end of March, but were gradually supplanted by Packham's Triumph and W. Cole. Bosc., B. Caps., Gansel's Bergamot and Howell also appeared and are almost finished with the exception of a few Bosc from Tasmania; a few Jos., W.N. and Glou Morceau have shown, but have not been required to date. Tas. W. Cole were of very fine quality, and P.T. also appeared from Tasmania, and a few from Victoria. Pear market continued firm. Extremely small W. Cole, below count 252, too plentiful and sold at low values. Prices: — ranged from 4/- to 9/-.

Bananas:

Arrivals for the four weeks under review totalled 41,000 tropical cases (N.S.W. 37,600 and Qld. 3,360) — an average of 10,242 tropical cases per week, whereas in the two first weeks of April last year, the arrivals were 18,000 and 20,000 cases respectively. Values then were nominally at 10/- to 17/-, whereas this year for almost the entire month the prices quoted by the Banana Market Board of N.S.W. have been 17/- to 23/- per tropical for regulation graded, first quality fruit (specially selected higher). Values at present are at that figure.

Citrus Fruits:

Grapefruit: Two parcels of Grapefruit from Palestine sold at 35/- per 1⅗ bush. One shipment from U.S.A. on April 20, showed very fresh appearance. Steady consignments have come from Queensland since early in April, and a few new season fruits have come from the Hawkesbury River (N.S.W.). Local new season fruit still very immature, light in weight, values uncertain. Prices:— U.S.A.: Counts 80 to 126 40/-, count 150 35/- per Cal. case. N.S.W.: New Season—Local 6/- to 8/- per bush. Qld.: 14/- to 18/-.

Lemons: New season local Lemons became plentiful early in April, the crop apparently being induced by the soaking rains in the middle of December last—fruit mostly small. For special quality fruit values held around 12/- to 13/-, but small, green fruit unwanted.

Prices:—N.S.W.: Special and Standard. Partly colored and colored — Counts 88 to 113 5/- to 7/-, 125 to 198 8/- to 12/- few 13/- 216 to 270 7/- to 9/-, smaller 4/- to 6/- bush. Plain grade 3/- to 6/-, green 3/- to 7/-, inland 7/- to 13/- per bush. Qld., 15/- to 18/-.

(Continued on p. 35)

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ENQUIRIES ARE INVITED BY ADVERTISERS ON THIS PAGE FOR FRUIT FOR EXPORT OR SALE ON THE ADELAIDE MARKET

Market Notes and Prices

(Continued)

VICTORIA.

Market Report for April.

THE introduction of Saturday afternoon closing for fruit shops caused heavier buying on Friday, April 30, with a correspondingly dead market amongst the wholesalers on Saturday morning. Innovations always have a repercussion, but as the public settles down to the new system, it is anticipated that there will be no reduced consumption of fruit, it may, on the other hand, be a good move for everybody.

The failure of the Act, however, is seen in its unfairness, and in that early closing does not apply to all retail shops alike. This is definitely a contingency not foreseen by the framers of the Act, and creates an anomaly that must soon be rectified. When the new law becomes universal as far as the metropolitan areas are concerned, the preliminary upset will be overcome and growers and merchants will arrange their distribution accordingly.

Apples were very slow in movement throughout the month. The quality was exceptionally good, and a light general demand caused low prices.

Pears: Buerre Bosc practically finished. Towards the end of the month the quality dropped. Packhams were all right, but low prices prevailed.

Grapes: A few Doradillas were available up to the end of the month at fair prices. Muscats were scarce and prices were correspondingly interesting at the end. Walthams were in good demand over supplies with high prices.

Oranges: Valencias practically closed out, but prices were maintained. The new season's Navels were again submitted in poor flavor owing to being picked too early, some shipments having to be held. Prices were fairly high, but the demand suffered.

Grapefruit: Mildura's came in quietly. A few Californian samples were received and prices maintained, also small quantities from Queensland to normal prices.

Lemons: In the first week there was a satisfactory market, but supplies eased during the month, also sales dropped. Small samples were hard to quit even at low prices.

Pineapples: Condition upon arrival improved, and the quality was uniformly good. Prices reacted to a good demand.

Bananas: Light supplies in middle of the month caused a firming of prices with the demand equalling supplies.

Celery: Some S.A. shipments arrived to fair prices in the first two weeks, but returns dropped later. Local Celery showed good quality, and the supply was satisfactory.

Tomatoes: Portland fruit practically finished. Though supplies were light in the last fortnight, prices held.

Melbourne (1/5/37): The following prices are quoted by the Wholesale Fruit Merchants' Association: — Per case: Apples, eating, 2/6 to 4/-, few higher; cooking, 2/- to 3/6, few higher. Bananas, double case, green, best, 12/- to 18/-. Adelaide Celery, 7/- to 9/-; special higher, inferior lower. Grapefruit, Queensland, 12/- to 16/-. Lemons, good quality, 4/- to 9/-, few higher. Oranges, Valencias, bulk, 6/- to 14/-, special higher; Navel Oranges, to 16/-. Passionfruit, 3/- to 6/- half case, choice higher. Pears, 2/6 to 6/-, few higher. Pineapples, 10/- to 16/-. Tomatoes, 3/- to 7/-, few higher. Cantaloups, 5/- to 9/-, choice higher. Grapes, 7/- to 15/-, special higher. Quinces, 2/- to 4/-.

The Melbourne market manager of the Federal Citrus Council of Australia reports that sales were as follow: Navel Oranges, Thompson's, new season, 126, 13/- to 14/-, few higher. Lemons, average standards, to 6/- and 7/-, medium counts (180-248); small (300's up), from 3/-; specially selected, medium counts, to 9/- and 10/-, few 11/-; 270-300, 6/- to 8/-; 300's up, from 4/-. Grapefruit, Marsh, seedless, good standards, 13/- to 14/-, few selected to 16/-. Valencias, average standards, 6/- to 11/-; good standards, 7/- to 11/-, few 12/- to 13/-; selected, 8/- to 15/-, specially selected higher. Mandarins, few Queensland Emperors, to 16/-.

WESTERN AUSTRALIA.

Perth (26/4/37): Apples, Jon., dumps 5/- to 13/- (special to 13/6, inferior from 3/-); Dunn's 3/- to 6/6; R. Beauty 3/- to 7/- (special to 8/-); Yates 6/- to 10/- (special to 10/3); G. Smith, 3/- to 8/- (special to 9/-); Cleo., 3/- to 7/6 (special to 8/6); Del., 4/- to 12/- (special to 13/6); Doherty, 5/6 to 8/6. Citrus: Navels, flats, 5/- to 11/- (special to 12/-); dumps, 6/- to 15/- (special to 17/6); Lemons, 6/- to 14/- (special to 15/6). Pears, Bartlett, flats, to 14/-; other varieties, flats, 4/- to 9/-. (special to 9/9); dumps 7/- to 11/-; Grapes, open, white, 9/6; closed to 7/6; colored 5/- to 9/-; Passionfruit to 15/-; Tomatoes 3/6 to 11/3 (special to 13/6, inferior from 1/-).

SOUTH AUSTRALIA.

Adelaide (30/4/37): Apples (eating) 5/- to 6/- case, do. (cooking) 3/6 to 4/6; Bananas 20/- to 24/- crate; Grapes (dark) 8/- to 10/- case; Lemons 7/- to 9/-; Oranges (common) 10/- to 12/-; do. (Navel) 11/- to 13/-; Passionfruit 22/-; Quinces 3/-.

QUEENSLAND.

Brisbane (16/4/37): The follow report is to hand from Messrs. H sons Pty. Ltd.: Apples, Jon. (N.S. 3/- to 9/-, Vic. 6/- to 8/-; K Davids 5/- to 7/-, G. Smiths 9/- 11/-. Oranges, local 7/- to 1 Navels 10/- to 14/-, (Emperor M darins to 15/-). Lemons, 10/- to 1 Quinces, S. Aust. 8/- to 10/-. Pass fruit, 8/- to 11/-. Pears, W. C 3/- to 10/-, Caps 6/- and 7/-, P.T. W.N. 7/- to 8/-. Grapes, Purple C nichon 8/- to 9/-, Waltham C 3/- to 8/-, other varieties 5/- 3/-. Custard Apples, 4/- to 5/- bush. cases. Papaws, choice 11/- 12/- tropical cases. Pineapp Smooth Leaf 8/- to 10/-, small inferior 4/- to 6/-. Bananas, 6's to 11/-, 7's 10/- to 14/-, and 8's to 16/-.

All vegetables are selling freely firm rates.

Weather conditions are excellen present, and all choice lines are s ing freely.

Brisbane: Messrs. Clark and Jes report under date April 20, as lows:—During the past month market has been very heavily s plied with both Pears and Apples, values have remained stationery.

The ruling prices at present ar Apples: Jons. 2½, 2¾, 6/6 to 7/6; 3/-; 2¼, 4/- to 5/-; Del., 7/- to King Davids, 5/- to 6/-; Alf., 6/- 3/6; Five Crowns, 6/-; G.S., 8/- 9/-. Pears: Winter Coles, 8/- to 1 Winter Nelis and Jos., 7/- to Bosc, 5/- to 6/-. Oranges: Loc 7/- to 8/6; Navels, 10/- to 11/-. M darins, Emperors, 13/- to 1 Grapes: Waltham Cross, 7/- to Ohanez, 8/- to 8/6; Purple Cornich 9/-. Custard Apples, 3/6 to 4/6 qrtr. case. Papaws, 7/- to 8/- c case. Lemons, 15/- to 16/- bus. matoes, 5/- to 7/-. Pineapp Roughs, 11/- to 12/- case; Smoo 9/- to 10/- case. Bananas, 14/- 16/- case. Celery, S. Aust., 14/- 15/- crate.

The present supply of Apples Pears on the market is in excess the demand.

NEW ZEALAND.

Dunedin (23/4/37): Messrs. Reil Central Produce Mart Ltd., report follows:—During the past week s plies of all lines of fruit and prod have been in shorter supply. C small consignments of Apples h come to hand, and values for good sert varieties show a slight impro ment. The principal varieties Apples being received are Jons. Dels., also Granny Smiths, with few small consignments of Coxes range. Dessert Pears have a good quiry, principal varieties being C and W. Nelis. Grapes are realis good values. Quinces are short requirements, and values this sea are high. Oranges are practically obtainable, small supplies of C Navels, transshipped from Auckl bringing extreme values, for sizes to 81/- was secured. A small sh ment of Pineapples is due by "Waikouaiti." There is a good mand for ripe Bananas.

Prices (per case): Oranges, C Navels 60/-, Cal. Lemons 65/-, Gra fruit 50/-, Bananas, ripes 23/-; Pi 21/-. Pears: Conference 7/- to Buerre Clairgeau 6/6, Buerre B 6/- to 8/-, W. Coles 7/6 to 10/6, Co ing Pears 4/6 to 6/-. Apples: Cho Coxes 8/- to 10/6, Del. 5/- to Jons. 6/- to 7/-, G. Smith 8/- to small and inferior grade dess Apples 3/- to 4/-, cookers 4/- to N.Z. Lemons 14/- to 18/-, wasty to 10/-. (Per half case): Confere Pears 4/- to 4/6, Coles 4/- to 5/9, Nelis 4/- to 4/6, Plums Coe's L Red 4/- to 5/-, Passionfruit 8/- 10/6.

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Office : 21 Wholesale Fruit Market, Queen Street, Melbourne. Phone F 4866.

CITRUS NEWS & NOTES

Citrus Culture: Best Soils, Location and Varieties.

ITRUS GROWING, as far as Queensland is concerned, has been mainly confined to the stal belt, but in recent years it has n extended to areas with lower nfall where suitable irrigation is ilable, writes Mr. R. L. Prest, In- ctor in Fruit Culture, in a recent ue of the "Queensland Agricultural rnal."

The material success of a commer- l citrus orchard depends in a large gree on the location, site, climate, d soil conditions. In the most suit- le coastal areas growth is gener- y more vigorous than in inland dis- cts, but, aided by irrigation, dis- cts with a low rainfall produce a mer fruit of better appearance and xture. A great deal depends on a gular supply of moisture to develop e full flavor of the fruit, which is t attainable under excess or a fluc- ating quantity.

Soils.

Citrus trees thrive and produce good uit on a rather wide range of soils, ich as red volcanic loams, sandy ams and sandy soils, provided that ey are well drained. The suitability f the soil depends more upon physi- al properties than on chemical pro- erties, though the latter are im- rtant. The chief physical proper- es are porosity and thorough aera- on coupled, if possible with depth to ermit perfect drainage.

Shallow soils, overlying retentive ays or rocks, are improperly drain- d, and must be classed as unsuitable. andy soils overlying gravelly washes s a rule drain too freely and are herefore also undesirable. Deep, andy loams, sandy soils and deep oams, overlying well-drained sub- oils can therefore be classed as good itrus soils.

Very fertile soils that induce an ex- remely heavy growth of wood and oliage are apt to be objectionable be- ause these results are not conducive o the production of the best crops, nor of fruit of the best quality and appearance. It is a fact fully sup- ported by experience that the well- drained warm soils preserve the best balance between the vegetative growth of the trees and fruit production. Such soils are usually represented by the lighter types, as heavy types are likely to lack adequate drainage.

In addition to the type as indicated by the surface soil, the subsoil is of very great importance, even greater than the surface soil. The surface may give every indication of being a good citrus soil, and yet the subsoil be of such a character as to make it quite impossible for the commercial production of citrus fruits. For in- stance, a shallow stratum of soil over- lying rock produces a soil condition entirely unsuited for orchard pur- poses. Under the most favorable soil moisture conditions an orchard planted on such a soil may do well, but it is likely to suffer in times of drought because the reserve of soil moisture is very limited, and in times of excessive rains difficulties result- ing from poor drainage are likely to occur.

The nature of the surface soil can be modified by the way in which it is handled, but the subsoil admits of only slight modification by ordinary means, except perhaps by under- ground drainage, which is generally too costly. If the subsoil is gravelly and over-porous, the trees are likely to feel severely the effects of even a moderate drought, while the other ex- treme, a heavy clay sub-soil, is very likely to be badly drained. In a badly- drained, heavy clay subsoil the roots in periods of excessive rainfall decay, and the top of the tree commences to die back. Therefore, a soil of this type must be thoroughly drained, yet not over-drained so as to cause the trees to suffer in dry weather. It should be reasonably fertile, and well supplied with humus, otherwise its physical condition will quickly deteri- orate, and it will be easily affected by drought and the fertility will be im- paired.

Location.

In selecting the orchard site, aspect should be well considered. Citrus trees thrive in a frost-free, well-shel- tered, warm situation. In districts where the prevailing winds are such as to interfere with the normal tree growth, belts of standing timber or scrub should always be retained as a protection to the orchard. In inland areas where timber is scarce, arti- ficial shelter belts should be planted.

The site should be an area of un- broken, nearly level, or gently slop- ing land. Steep hillsides should be avoided, as, in addition to the danger of sustaining irreparable losses by soil erosion, the costs of general orchard practices are high. Most centres along the coastal belt are free from dam- aging frosts. In the Burnett district, however, this is not the case, and on occasions low temperatures have oc- curred, causing injury to Lemons, and, in one or two cases, severe damage to young citrus trees. In such districts care should be exercised to avoid hol- lows and low areas where frosts are likely to be experienced.

Varieties.

A wide range of varieties of citrus trees has been catalogued, many of which are not worthy of space in the orchard. When making commercial plantings it is advisable to confine the selection of varieties to the narrowest limits. Productivity and market de- mands are the essential requirements to be kept in view, and these can only be obtained by confining attention to the variety or a few varieties of re- cognised merit best adapted to the district or locality in which they are to be planted.

Citrus Bounty – 1937

Following on representations by the newly-formed Australian Citrus Ad- visory Council, the Acting Prime Min- ister, Dr. Earle Page, has announced the decision of the Commonwealth Government to grant a bounty at the rate of 2/- per export case in respect of all citrus fruit shipped to destina- tions other than New Zealand during the year 1937. Legislation to give ef- fect to the decision of the Government will be introduced during the next Session of the Commonwealth Parlia- ment in June.

The bounty of 2/- per case export for last year applied to Oranges only, but this year the bounty has been ex- tended to all shipments of citrus fruit. This extra provision has been granted by the Government in order to assist experimental shipments of Lemons and Grapefruit which have been go- ing forward for some years without the aid of a bounty.

The conditions under which the bounty becomes payable will be de- termined by the Department of Com- merce.

Citrus Round the World

The Riverside (Calif.) Citrus Ex- perimental Station has just landed a shipment of scale parasites from South Africa. These will be farmed out to citrus orchardists, and the re- sults carefully tabulated.

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More than 200,000 persons in South- ern California derive their livelihood directly from the citrus industry.

:: :: ::

The La Verne Co-operative Citrus Association handled 128,000 less boxes of fruit in 1936 than in 1935, but re- turned to growers nearly £10,000 more.

:: :: ::

From April to October, 1936, South Africa's exports of citrus fruits rose to 2,314,000 cases, or 15 per cent. more than in the same period of 1935. Great Britain was the greatest market, but Sweden, Holland and France took small shipments.

:: :: ::

The crop of citrus in 1936 was con- siderably larger than in 1935. Ship- ments were made to Poland, Rumania, Germany, Austria, Hungary and Czechoslovakia. For the first time in her history, Greece shipped Tan- gerines to U.S.A.

:: :: ::

Under a new trade agreement with South Africa, Germany has increased her allocation for citrus fruit from the former country from £10,000, as observed in 1936, to £42,000 for 1937.

:: :: ::

Portugese colonies have consider- able increased their exports of citrus fruits, already 250,000 cases have been shipped via Lourenco Marques.

VICTORIA.

The citrus crop in the Swan Hill, Goulburn Valley and Cobram district is very patchy. In the Mildura area the prospects are for a normal crop of Valencias and Navels.

CITRUS PROSPECTS IN N.S.W.

On the whole, a lighter crop of cit- rus fruits than usual is forecast for N.S.W.

A report received from the N.S.W. Dept. of Agriculture early in April states as follows:—

Navels are growing and holding well in groves in the Hawkesbury River district and fruit showing col- or. Most trees are carrying an in- termediate crop in the Baulkham Hills area and in many orchards bloom is again apparent.

The very light crop at Kurrajong is sizing nicely, and odd consignments should be going forward to market from the Colo locality about the end of April.

It is likely that large fruit will mature in orchards around Windsor, particularly on young trees. Only a very light crop is apparent in the Maitland district.

Valencias are developing well in the Hawkesbury River, Baulkham Hills, Windsor, Parramatta and Kur- rajong areas. Most of the intermedi- ate setting has shed in the Parramat- ta district.

Silettas are coloring in many groves and some fruit should be ready to harvest towards the close of April. Joppas are carrying the best crops around Parramatta and develop- ment is satisfactory.

Good progress is reported regard- ing the sizing of Mandarins and some Imperials are expected to be avail- able from the Penrith locality late in April. The Lemon crop is heavier than at first anticipated in the Baulkham Hills district and if present growth continues the fruit should reach a marketable stage during April.

Reports from the Leeton portion of the Murrumbidgee Irrigation Area in- dicate that all varieties of citrus are growing well.

Fruit Prices in the Sydney Market. (Continued from Page 33.)

Oranges: Valencias: These con- tinued plentiful throughout the month —but too much large fruit: counts 125 to 180 seldom stayed in the mar- ket for any lengthy period. Values went to 15/- for one short period, but quickly receded and now show a ten- dency to steadily ease. Much fruit good appearance, but flavor lacking in most fruit, due to lengthy hanging on trees. Prices:—N.S.W. Standard Grade. Local 5/- to 10/-, Inland 5/- to 11/-, few 12/- per bush. Plain grade 4/- to 7/-, second crop 5/- to 8/-.

New Season Fruits: Navels appear- ed early in April, some being arti- ficially colored and values nominally for the small quantity are 6/- to 9/- per bushel. **White Siletta** did not at- tain the values received last year, owing to the prevalence of Valencias, prices mostly around 3/- to 6/- per bush. Several consignments of **Qld. Navels** appeared, the fruit being elongated in type—14/- to 16/- per bush. For the new season **Oonshi and Imperial Mandarins**, prices were 3/6 to 6/-, few 8/- per ½ bush.

Grapes:

Season now well advanced, but Purple Cornichon plentiful from irri- gation area. Prices:—N.S.W., inland: Purple Cornichon 4/- to 4/6 few 5/-, Black Muscat 5/- to 7/- few special 9/- to 10/-, Gordo 3/- to 5/6 few 8/-, Doradillo 3/- to 4/- per half case. In- ferior in all types lower.

Passionfruit:

At the end of March stocks were the heaviest for some considerable time, and fruit remained unsold for a few days; values became 2/6 to 6/-, but, a week or two later, when over supply was less evident, buyers paid to 8/-, and lat- terly 10/- for special quality. The choice fruit from Mangrove Mountain and Kulnura, when packed with care, and graded with exactitude, is in re- quest. Prices:—N.S.W. 6/- to 9/- few 10/-, inferior from 2/6 per half case.

Tomatoes:

The over supply of Tomatoes evi- dent at the end of March, continued throughout April, values improving only just latterly. Values obtained at this time of the year during re- cent seasons have induced larger areas to be planted and deliveries were heavy from the Irrigation Area, Lavington and Mangrove Mountain and Kulnura. Growers in the Hills District, near Sydney, also turned to the Tomato as a "pot boiler," and supplies also came from the Orange and Bathurst districts until about the middle of April. Since the weather has become colder, most districts have had difficulty in coloring and ripen- ing fruit and supplies were less plen- tiful. This cool weather will provide an opportunity for those districts which can survive it and values will then improve. Rain at Portland re- duced supplies from Victoria during middle of April and this assisted prospects for local growers. It is re- ported that Stanthorpe (Q.), will have fruit available sometime in June. Prices:—N.S.W., 2/6 to 5/-, factory price (ripe) 1/6 per half case; Vic., Portland 5/- to 8/- per bush. Re- packed, 4/6 to 6/- per ½ bush.

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Strawberry Culture

How and When to Plant

Pest and Disease Control

(By W. R. Parmenter, Williamstown Branch, S. Aust. Bureau of Agric.)

THE BEST SOIL in which to grow Strawberries is a good loam with a clay or slate sub-soil, although they will grow on almost any class of soil.

In South Australia the Strawberry is chiefly grown in the Mount Lofty Ranges, where a good rainfall is generally obtained, but they will also do very well in the drier districts.

Where a rainfall from 16 in. upwards is to be obtained, Strawberries can be successfully grown, provided that the proper attention is given.

The best way to grow them is to get good well-rooted runners, and these can be set out in rows, beds, or in hills.

To plant in rows, the plants are set from 12 to 18 in. apart in the row, and the rows 24 to 30 in. apart. Any runners forming between the plants are allowed to remain, whilst any that form between the rows are kept cut off; this will eventually form a matted row of plants.

To plant in beds, the rows are set a little closer and all runners allowed to remain, eventually forming a matted bed of plants.

To plant in hills, plant the same as for rows, but all runners are kept cut off, and the original plant will branch out into a number of crowns, from which they will flower and fruit in great numbers.

To plant the runners, only the roots should be put in the soil, and not the corm from which the crowns form.

The Strawberry has a peculiarity in its flowers, and can be placed in three groups, namely, Pistillate, Staminate and Hermaphrodites. In the Pistillate group the flowers are so defective in their stamens that they need the fertilising influence of another variety planted near them to ensure the crop setting.

In the Staminates group, the flowers are often so defective in their pistils that a great percentage fall off or fail to set fruit. This is more often the case when these varieties are grown in beds, and the runners allowed to stay on, but they are usually very productive if grown in hills. In the Hermaphrodite group the two sexes are so evenly combined that almost every flower sets perfect fruit, but only a few varieties belong to this group.

The best time to plant out Strawberries is from May to July, when the runners have attained a suitable size.

However, the earlier the plants are set out the better, because they can then produce sufficient growth before they fruit to carry a crop of good berries. Should the plants not be growing sufficient foliage, all flowers that form by the end of August should be picked off. This will help the plant to grow foliage, and the flowers will grow later.

Some gardeners make the mistake of manuring too heavily. This only tends to grow foliage and very little fruit sets, the plants usually growing all runners and no fruit.

The best method of manuring is to dig in plenty of green manure in the Winter, and give a dressing of super. and bone dust (2 cwts. to the acre), and when the fruit has set give a dressing of sulphate of ammonia (1 cwt. per acre).

A good plan is to mulch the plants in the Winter with old stable manure, straw or sawdust; when the rains come, the manure will be carried into the soil as liquid manure.

Some gardeners make a mistake by watering their Strawberries and by stopping the watering when the crop has finished. Strawberries can be successfully grown without the aid of irrigation in any district where a rainfall of 25 in. or more is obtained. It is only in the drier districts where irrigation, either by the use of sprinklers or by flooding the ground, should be used.

The Strawberry is only a shallow-rooted plant, and produces a number of surface roots to feed the moisture required by the plant; should irrigation be applied, the plant must produce more surface roots to help feed the extra moisture into the plant. Should the irrigation be discontinued in the drier months of the year, the plant cannot find enough moisture to carry the increase in roots and foliage and it generally deteriorates or dies.

Pest and Disease Control.

Some of the chief causes of failure with Strawberries are the numerous pests and diseases that occur at different times.

Insects and grubs are more destructive than any disease that has yet appeared in a Strawberry garden. The green fly, or aphis as it is generally known, often attacks the roots of the plants, particularly when the soil is loose so as to admit them readily to the roots. The snail and the slug are also destructive and destroy fruit in large quantities. The Rutherglen bug is also a destructive pest, as it sucks the juice from the berries, making them useless for market.

Strawberry leaf spot is a fungus disease to be found in almost every garden. It causes numerous brown spots to appear on the leaves of the plants.

Mildew is a disease to be found in the wetter districts, or where irrigation is used.

The reason why it is better to plant good strong runners is that should the old bushes have a disease, it will not be spread by using strong, healthy runners. Some growers split up their old plants when replanting, using a piece containing good roots and a crown for fruit.

Strawberries properly cared for will bear for a number of years, but it is advisable to try and keep only young plants, or re-plant every three years.

When planting for market purposes, it is advisable to plant every year, and at the end of three years dig up a bed and re-plant again. There are a great number of varieties to choose from, but the ones usually grown are Melba, Hackett's Giant, Gandy, Ettersburg 89, Rhodes Special and Royal Sovereign.

The Strawberry begins to ripen at the end of September, and will continue to bear until December. Should conditions be suitable, such as if sufficient moisture can be obtained during the Summer, a second and often a third crop can be gathered. This is more often noticed where the Strawberry is grown with the aid of irrigation, and if irrigation can be used without too much expense attached to it, I would advice its use only for this purpose.

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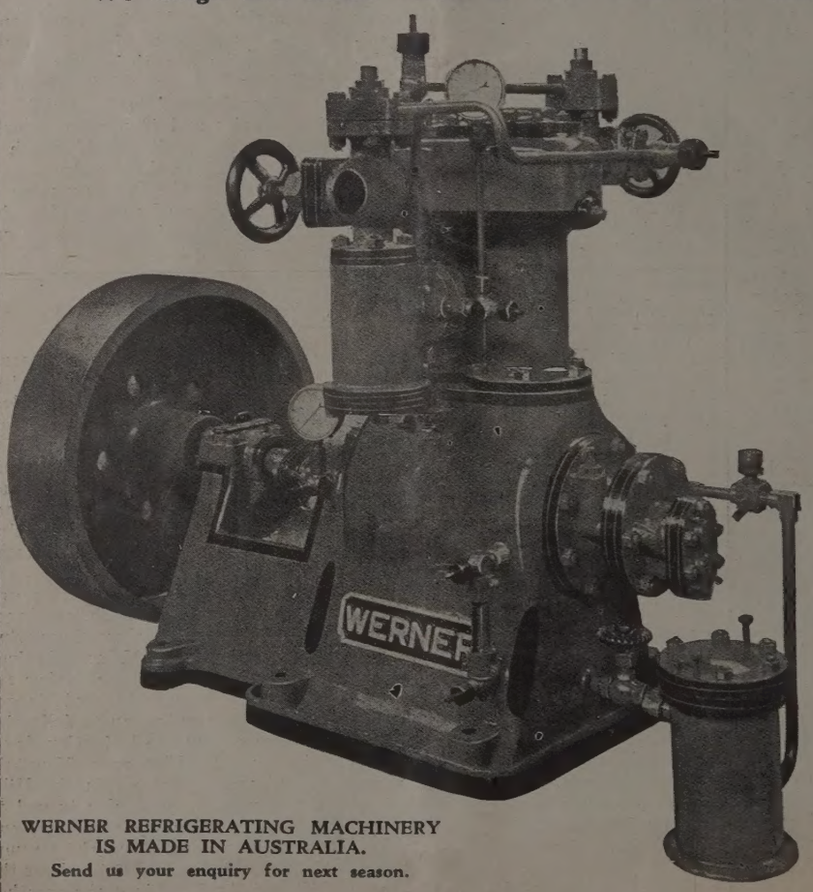

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